Supporting Students with ADHD in an Elementary Classroom

By

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Abstract

This study investigated how teachers support students with ADHD in an elementary classroom. It addressed the current methods employed by elementary teachers to help students with ADHD and how educators can improve their techniques for the future. This study was attained through a qualitative design and the findings concurred with the existing literature, that elementary school teachers are not fully equipped to support students with ADHD in their classrooms. The subjects were aware that there is a growing need for reformation of teachers’ educational programs to address the varying needs of these students. The study also emphasized the detrimental affects of ignoring students with ADHD, that often linger into adult years, causing social and educational set backs.

Key Words: ADHD; Strategies; Knowledge; Training; Elementary; Teachers
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Dedication

A child is like a butterfly in the wind.  
Some can fly higher than others,  
But each one flies the best it can. 
Why compare one against the other? 

Each one is different  
Each one is special  
Each one is beautiful.  
-Author Unknown

I dedicate this paper to all teachers, to my parents and to my husband.
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Chapter 1: Introduction

1.0 Research Context

In the world of education, a general elementary classroom includes various types of students with different “abilities, exceptionalities, and intelligences” (Bader, 2015, p. 6). Among them are students with Attention Deficit Hyperactive Disorder (ADHD), which is a learning disability characterized by inattention, hyperactivity and impulsivity (American Psychiatric Association, 2013). There are two main dimensions to ADHD: attention regulation and impulse control. Typically, students who have a limited ability to regulate their attention tend to talk excessively and interrupt others without fully understanding the consequences (Furtick, 2010). Similarly, students who have difficulty controlling their impulses tend to be generally fidgety and hyperactive (Furtick). According to the Ministry of Education (2010), students with ADHD also have difficulty screening out environmental stimuli, sustaining concentration, maintaining stamina, handling time constraints, multi-tasking, and interacting with others.

There are many students who are diagnosed with this disorder. Frank-Briggs (2011) reported that ADHD “affects about 3 to 5% of children globally” (p. 291) and every classroom of 20-30 students has at least 1 student with ADHD (Junod, DuPaul, Jitendra, Volpe & Cleary, 2006). Hence, it is up to the teacher to accommodate and modify their teaching practices for these students. This is a reoccurring issue in elementary education as most students with ADHD face academic difficulties throughout their schooling (Swanson, 2007). However, having ADHD does not mean that students will not achieve high grades; in fact these children typically have above average IQs (Schuck & Crinella, 2005). It is a matter of understanding the needs of these students and then employing different approaches to teaching so that they can excel despite the
hindrances that ADHD can cause in learning. This research study will further examine the techniques involved in teaching students diagnosed with ADHD.

This chapter begins with a brief overview of the characteristics of students with ADHD, and then identifies the research problem, research purpose and key research questions. It also provides a brief introduction to the methodology used for the study. It ends with my background and positionality, outlining why this topic is important to me on a personal level.

1.1 Research Problem

Students with ADHD face a significant number of challenges in their early years of learning such as low achievement, repeating grades, trouble-paying attention, and following rules (Blotnicky-Gallant et al., 2015). Students with ADHD may struggle in core subjects if not provided with the adequate support from their teachers. For an example, math requires patience, concentration, and tolerance; which are behaviours that students with ADHD can struggle self-regulating (Shaughnessy & Waggoner, 2015; Murphy, 2015).

In addition, a decline in academic achievement is often correlated with academic engagement. Greenwood reported that academic engagement consists of classroom behaviours “such as writing, participating in tasks, reading aloud, reading silently, talking about academics, and asking and answering questions” (as cited in Junod et al., 2006, p. 89). DiPerna, Volpe, and Elliott (2002) reported that the more engaged students are in academic instruction, the more opportunities they have to succeed in academics. However, Junod (2006) found that students with ADHD receive very few opportunities in elementary classrooms to be academically engaged. Other than academic barriers, a mental illness such as ADHD can affect students’ relationship with their peers and family members and can also negatively affect their cognitive development (Ministry of Education, 2010).
Overall, teachers have a general working knowledge of ADHD and most believe it to be a biological disorder (Einarsdottir, 2008; Bekle, 2004). Unfortunately, teachers are limited in providing effective support for students with ADHD because of external factors such as lack of time and large class sizes. In addition, many teachers do not have the adequate knowledge needed to support students that suffer from ADHD, such as knowledge of appropriate interventions and modifications (Nowacek & Mamlin, 2007).

1.2 Purpose of Study

The purpose of this study was to investigate the extent to which and the ways in which teachers support students with ADHD in an elementary classroom. In detail, this study investigated how educated and prepared teachers instruct students with ADHD and the types of strategies they are using to support these students in elementary classrooms. It is difficult for teachers to help these students achieve academic success without having the appropriate knowledge and tools to facilitate student learning. This research study aims to deepen the understanding of how elementary teachers support students with ADHD and how they might be better prepared when entering the classroom. Educators can work together to create a more inclusive and safe environment for children by understanding and developing effective strategies for building communities (Landolfi, 2014). By bringing enough attention to these issues through learning programs in schools, there may be fewer stigmas attached to students with ADHD.

1.3 Research Questions

My main research question is ‘how do teachers support students with ADHD in elementary classrooms?’ However, to further investigate this question it is essential to consider, how do teachers prepare to teach students with ADHD in an elementary classroom? This sub-question will explore the different types of training teachers are given and the initiatives they take to be
prepared to teach students with ADHD. Moreover, I will investigate, how do teachers support students with ADHD in an elementary classroom? This sub-question will examine the interventions and modifications teachers are implementing in the classroom and the various other strategies they use to support students with ADHD. Lastly, it is equally important to address the sub-question, what can teachers do to better support their elementary students with ADHD? This question will look at the next steps for teachers to be better equipped to teach and support students with ADHD in the classroom.

1.4 Introduction to Methods

This study used a qualitative research design that focused on the quality of human experience and what these experiences mean to them from their perspectives (Draper, 2004). Qualitative research is a suitable method for this study because it allows the researcher to better understand the participant(s) and their experiences. Denzin and Lincoln defined qualitative research as “a situated activity that locates the observer in the world” (as cited by Creswell, 2013, p. 43). This method allowed me (the researcher) to have an in-depth understanding of how teachers support students with ADHD. The data has been collected through a series of interviews that contain open-ended questions, which are aimed at unraveling the experience of teachers. The interviews were transcribed and then a data analysis was conducted.

1.5 Background of the Researcher and Positionality

I come from a South Asian background, specifically from Pakistan. Generally, it has been my experience that in the Pakistani culture there are strong stigmas about mental health issues. ADHD is a good example of a mental health issue that I believe is typically overlooked and rarely acknowledged in Pakistani culture. The result of not accepting ADHD as a serious mental health issue results in reprimanding or disciplining children who are inattentive or disruptive in
classrooms. According to the World Health Organization (WHO), “only 400 psychiatrists and 5 psychiatric hospitals exist within the entire country, a population exceeding 180 million” (Mahmood, 2014). This issue personally affects me because ADHD is a legitimate issue that needs to be addressed, especially at an early age. This causes “emotional suffering, vulnerability, anxiety and sadness” in the child (Mahmood, 2014). The lack of awareness is one of the key problems in rural countries where only severe mental health issues are acknowledged and treated. As a result, children suffering from ADHD are regarded as delinquents and underachievers.

Unfortunately, this issue has not always been brought to light even in first world countries. I have witnessed this first-hand as a close friend was recently diagnosed with ADHD after suffering silently through elementary school and high school. His teachers’ had passed these struggles off as delinquent behaviour and did not show any encouragement or support, which inevitably worsened the issue. I have also volunteered in many elementary classrooms that had students with learning disabilities. I realize that at times it can be very challenging for teachers to accommodate or modify the classroom for these students because of the lack of resources such as time and support. In my experience as a grade one classroom assistant, I had a student in my class with ADHD and as I observed the student, it quickly became obvious that the child was being left out in lessons. Hence I have a strong and passionate belief that education should be fully inclusive and each lesson should cater to a variety of learning needs. This topic is important to me because I aspire to be a teacher that will include effective interventions in my lessons for students with ADHD and create a fully inclusive classroom.
1.6 Overview of the Paper

Chapter 1 of this research paper provided a brief introduction on ADHD. It included the research problem, the purpose of the study as well as why this topic requires immediate attention from teachers and administrative staff. Chapter 2 provides a detailed literature review, which focuses on the difficulties faced by students with ADHD, the knowledge teachers have about ADHD, the beliefs and attitudes of teachers, and the interventions and modifications teachers implement to support these students. Chapter 3 focuses on the research methodology; it gives details about the approach and procedure of the study, including information about the participants. It also explains what instruments have been used to collect data and how the data is analyzed. Chapter 3 then explains the ethical procedures and ends with the methodological limitations and strengths. Chapter 4 discusses the research findings from the qualitative study conducted. Lastly, chapter 5 focuses on the implications of the research findings, provides recommendations, and identifies areas for future research.
Chapter 2: Literature Review

2.0 Introduction / Overview

Elementary students with ADHD find it difficult to succeed academically and maintain healthy social relationships. This is a result of the symptoms of ADHD, which make it difficult to comply with expected classroom behaviours (Kos, Richdale & Hay, 2006). In order for these students to succeed socially and academically they require concentrated support from their parents, their peers, and most importantly their teachers. Many studies have been conducted in regards to the knowledge teachers pertain and the effectiveness of methods of modification for students with ADHD; this literature review will examine how teachers support students with ADHD in elementary classrooms (Vereb & DiPerna, 2004; McGonnell & Corkum, 2015; Bekle, 2004). To help navigate this rich body of research, this chapter is divided into four areas of focus: the difficulties children with ADHD face in school; the amount of knowledge and training teachers have about ADHD; the attitudes and beliefs teachers hold toward students with ADHD; and lastly, the interventions and modifications teachers implement in the classroom to aid children with ADHD.

2.1 Attention Deficit Hyperactivity Disorder and the Difficulties Faced by Students

2.1.1 Attention Deficit Hyperactivity Disorder

There is a consensus within research on the definition of ADHD stated by the American Psychiatric Association (2000): “Attention deficit/hyperactivity disorder (ADHD) is a behavioural disorder characterized by inattention, impulsivity, and hyperactivity” (as cited by Harlacher, Roberts, & Merrill, 2006, p. 6; Vereb & DiPerna, 2004; Murphy, 2015). Frank-Briggs (2011) reported that ADHD “affects about 3% to 5% of children globally” (p. 291). This percentage range is accurate in most of the research that has been conducted and presented in this
area (Einarsdottir, 2008; Blotnicky-Gallant, Martin, McGonnell & Corkum, 2015; Bussing, Gary, Leon, Garvan & Reid, 2002; Shaughnessy & Waggoner, 2015; Swanson, 2007; Vereb & DiPerna, 2004; Murphy, 2015; Bekle, 2004).

2.1.2 Academic, Emotional and Social Difficulties Faced by Students with ADHD

ADHD is a growing concern, and research has shown that students with ADHD experience countless number of difficulties in school due to their hyperactivity, impulsivity, and inattentiveness (Swanson, 2007; Abikoff et al., 2002; Blotnicky-Gallant et al., 2015; Couture, Royer, DuPuis & Potvin, 2003; Einarsdottir, 2008). These behaviours can result in academic, emotional and social barriers that are consistent throughout schooling and can often result in students dropping out (Martinussen, Tannock, & Chaban, 2011; DuPaul et al., 2006; Blotnicky-Gallant et al., 2015). Frank-Briggs (2011) reported the problems that children with ADHD face often begin in kindergarten or grade 1 and continue throughout their schooling, sometimes lingering into their adult years. Academic challenges that students with ADHD face include low achievement, repeating grades, and increased rates in detention, suspension, and expulsion (Murphy, 2015). Murphy stated that students with ADHD struggle in various subjects such as reading and writing (as cited in Murphy, 2015) and especially in math, considering it requires patience, concentration, and tolerance; these are all behaviours that are limited as a result of the symptoms of ADHD (Shaughnessy & Waggoner, 2015). Such students also have behavioural problems and have trouble complying with the rules of the classroom and school. Teachers have to consistently remind students of the rules, which often takes away from their teaching time. Such students tend to get easily distracted by external stimuli and tend to go off task (Kos et al., 2006; Greene, Beszterczey, Katzenstein, Park, & Goring, 2002). Social problems experienced by students with ADHD include having difficulty making friends and understanding conversations.
These students may also struggle with their emotions and may face excessive anxiety, anger, and depression. As a result, they may be disruptive to the class and often interrupt verbally. This research on the difficulties experienced by students with ADHD shaped this research study as it shows how essential it is to examine how teachers support elementary students in the classroom and to further investigate if the support is effective or lacks proper interventions. Blotnicky-Gallant et al. (2015) concluded that “Attention-deficit/hyperactivity disorder (ADHD) has a significant impact on children’s social, emotional, and academic performance in school, and as such, teachers are in a good position to provide evidence-based interventions to help ensure optimal adjustment of their students” (p. 3).

2.1.3 Gender Differences

When discussing the difficulties faced by students who have ADHD, it is essential to recognize the gender differences associated with it. A study was conducted by Abikoff et al. (2002) to determine if gender played a role in the symptoms displayed by children with ADHD. This study included 579 children with ADHD in grades 1-4, from which 425 were male and 103 were female, took part in the study. The study concluded that boys with ADHD displayed more non-compliant behaviours such as rule breaking and aggression, while girls with ADHD were not as disruptive but rather had a harder time staying on task. The gender difference of students with ADHD proves the notion of boys being diagnosed with ADHD at a younger age. This study is limited because there were more male participants than female participants; hence boys may be diagnosed more often since the male participants were quadrupled in numbers. However, the findings of this study were supported by Sciutto, Nolfi, & Bluhm (2004), who reported that teachers referred more boys than girls for diagnosis of ADHD irrespective to the type of behaviour displayed by that student.
Overall, the numbers of student referrals has grown over the years; teachers are very quick and often the first ones to refer students to get tested for ADHD (Vereb & DiPerna, 2004). This is known as a ‘false positive’ where the child is given an ADHD diagnosis but in fact they do not have the condition. Not all of the students’ diagnoses of ADHD are accurate since ADHD symptoms are often a result of environmental factors such as class size, limited resources and the use of traditional teaching practices rather than the student’s personal symptoms (Glass & Wegar, 2000).

2.2 Teachers’ Knowledge about ADHD

2.2.1 Pre-service and In-service Teacher Training

Despite the over diagnosis of male students of ADHD, there is still a growing amount of elementary students who are accurately diagnosed with ADHD. With the growing rate of this disorder teachers need to serve these students in the best applicable manner. Even though most states in America require teachers to take special education courses, the amount of knowledge gained is uncertain (Bussing et al., 2002). There is a consensus among studies that teachers require additional training to better support students with ADHD (Bussing et al., 2002; Martinussen et al., 2011; Nowacek & Mamlin, 2007; Bekle, 2004). Bussing et al. (2002), Martinussen et al. (2011) and Couture et al. (2003) all reported that most teacher candidates received little to no education or pre-service training, hence majority of current teachers resort to self-study methods about ADHD, usually through books and articles. Martinussen et al. (2011) also found that special education teachers were more likely to receive extensive in-service training while general education teachers receive brief training. Even though the study was limited to one school board in Ontario, the information is valid as it is consistent with other research done in this area (Bussing et al., 2002; Couture et al., 2003; Zentall & Javorsky, 2007).
The amount of ADHD training teachers receive is also related to their teaching experiences with students who have ADHD in their classrooms. Bussing et al.’s (2002) research concluded that the amount of ADHD training in teachers’ education has increased from previous years. The shift to more ADHD training programs through different sources can be a result of teachers having more students with ADHD in their classroom (Couture et al., 2003). Teachers who interacted with more students with ADHD resorted to the self-study methods of training. In addition, there are many barriers to successful training: overcrowded classrooms, a shortage of time to fully address students’ needs, and the severity of ADHD symptoms. However, training is not the only solution to helping teachers; teachers also require administrative support, such as reducing class sizes, which provides teachers with more time to cater to the individual needs of students with ADHD (Bussing et al., 2002).

2.2.2 Types of Knowledge

Training helps teachers gain more knowledge and understanding but additional support is also required. There is a high possibility of teachers giving the wrong information to other teachers; hence it is important to explore the types of knowledge teachers possess about ADHD (Kos et al., 2006). Mulholland, Cumming, & Jung (2015) found that a majority of the teachers knew the symptoms of ADHD while only a few knew about the “diet, prevalence and aetiology” (p. 22). These results match other studies (Glass & Wegar, 2000; Blotnicky-Gallant et al., 2015) that reported teachers possessed knowledge about the symptoms of ADHD but lacked treatment knowledge. Their level of knowledge about ADHD did not correlate with the types of treatments such as behaviour and academic modifications (Vereb & DiPerna, 2004; Glass & Wegar, 2000; Blotnicky-Gallant et al., 2015). Additionally, many teachers have a misconception that ADHD is caused by sugary foods and can be treated with healthy diets (Blotnicky-Gallant et al., 2015;
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Mulholland et al., 2015; Bekle, 2004). Teachers need to receive training about ADHD throughout their careers to overcome these misconceptions.

Overall, studies indicate that in-service training is crucial for the success of students with ADHD because it allows teachers to gain accurate knowledge and develop professional skills that can help manage their student’s behaviour and can assist them academically (e.g., Bussing et al., 2002; Couture et al., 2003; Zentall & Javorsky, 2007; Martinussen et al., 2011). A study was conducted where three in-service programs were executed. After three months Zentall and Javorsky (2007) found that teachers were more knowledgeable, had changed attitudes, and were more confident when teaching children with ADHD.

2.3 Teachers’ Attitudes and Beliefs

2.3.1 Biological or Environmental

There are limited studies that look at the attitudes and behaviours of teachers towards students with ADHD. Most studies focus on the knowledge teachers have of ADHD rather than their feelings and perceptions towards the condition. Research in this area indicates that teachers’ behaviour towards their students is based on their knowledge and attitudes (Bekle, 2004; Bussing et al., 2002; Couture et al., 2003; Glass & Wegar, 2000). There are several factors that may influence teachers’ perceptions and beliefs, which include their positionality, age, training, experience, education and culture (Mulholland et al., 2015, p. 17; Couture et al., 2003). Although teachers acknowledge that ADHD is a legitimate diagnosis that needs attention, many face a difficult time managing the behaviours that children with ADHD tend to display.

Various studies have found that many teachers believe ADHD is a biological disorder and is not related to environmental factors such as class size (Glass & Wegar, 2000; Foy, 2005; Couture et al., 2003). Teachers who have this belief often resort to medications and
psychological therapy to help these students (Couture et al., 2003; DuPaul et al., 2006). In
contrast some teachers have sociocultural beliefs where ADHD is socially constructed and the
difficulties faced by these students is due to environmental factors such as class size (Couture et
al., 2003). Teachers who have these beliefs resort to interventions and modifications that help
change the students’ surrounding, which can ultimately result in benefitting the students. Couture
et al. (2003) found that teachers who took more special education courses had a better
understanding of the biological aspect of ADHD and how medicine can help these students, and
these teachers were also more open towards sociocultural beliefs than those who never took such
courses. Similarly, Liesveld (2007) also reported that teachers who had more knowledge about
ADHD were more supportive of medication and were willing to try numerous strategies in the
classroom to help support students with ADHD. Biological and environmental reasoning is still
an ongoing debate, however most teachers believe that ADHD is a biological issue (Einarsdottir,
2008; Bekle, 2004; Glass & Wegar, 2000). Hence, the goal of most interventions is to reduce the
symptoms of ADHD rather than to help students excel academically (DuPaul et al. 2006). My
research aims to paint a more clear and accurate picture of teachers’ beliefs’ and how they affect
interventions implemented by teachers.

2.3.2 Teachers’ Stress

Teachers often focus on reducing symptoms of ADHD as these can become stressful to
manage. Bussing et al. (2002) discovered in their study that teachers had the least confidence in
managing stress triggered by ADHD students. This finding is further strengthened by similar
results by Greene et al. (2002), where they found that teachers were more stressed when dealing
with students with ADHD than non-ADHD students. The stress was individualized and
depended on the teacher, student and their behaviour. Blotnicky-Gallant et al. (2015) reported
that the level of confidence teaching students with ADHD was connected to the level of knowledge about ADHD teachers had. All three studies suggested that teacher training should include methods to deal with stress, as the root cause of the stress could be incompatibility rather than particular issues with the children or teachers. Through training interventions, the compatibility in the teacher-student relationship can be improved. Also, training can inform teachers on how to step away from traditional classroom approaches in order to create an inclusive classroom community. In addition, many studies have also concluded that stress may not always be related to the students with ADHD, but rather depend on other factors such as “teachers’ psychological status, school environment, and community environment” (Bussing et al., 2002, p. 86; Glass & Wegar, 2000). Mulholland et al. (2015) also had comparable findings of teachers being stressed and having negative feelings towards students with ADHD as the behaviours that resulted from ADHD irritated most teachers. Glass and Wegar (2000) and Foy (2005) reported that teachers and principals referred more students to get medication as a result of stress instead of making modifications or interventions. Schools often lack the proper resources and believe that medication is an easier and reasonable way to control the students’ behaviour. Shaughnessy (2015) analyzed over 40 principals’ responses about ADHD and found that accommodating for these students was not a priority; one principal stated the following “It is the responsibility of the parents and student to make sure if they are on medications that they take it” (p. 220). Conrad argued that medication might help the individual behaviours of students, however it does not treat the “systemic problems that influence the child’s behaviours” (as cited by Glass & Wegar, 2000, p. 414).
2.3.3 Positive Views of Students with ADHD

Medication is often a recommended solution as a result of negative perceptions of students with ADHD. Conversely, Mulholland et al. (2015) and Blotnicky-Gallant et al. (2015) found that overwhelming amounts of teachers had positive beliefs about students with ADHD. Mulholland et al. (2015) reported that teaching these students was a rewarding experience for 64.2% of teachers; in addition, 60% of teachers believed that these children needed to concentrate harder on their classwork. This belief suggests that teachers understand the symptoms of ADHD that can cause barriers to academic success, however teachers believe that the onus is on the student for his/her success, hence, students should ultimately learn to take responsibility of their actions and behaviours. However, this study is limited to Australian teachers, which cannot be generalized for teachers in other countries. This could also be the reason why there is a contradiction in this literature when compared to other studies in the United States that state that the majority of teachers have negative feelings when teaching students with ADHD (Glass & Wegar, 2000; Bussing et al., 2002; Nowacek & Mamlin, 2007). To see if results were the same or different in Canada, Blotnicky-Gallant et al. (2015) conducted a study on Canadians teachers and found that most were neutral about their beliefs but tended to be more positive about their experiences with students with ADHD. Liesveld (2007) used a mixed method approach in her study where she discovered that teachers who were more knowledgeable were optimistic about teaching children with ADHD; they believed that they could positively influence their students.

Overall, the extent of knowledge is associated with the beliefs teachers hold about students with ADHD (Blotnicky-Gallant et al., 2015). Teachers who have more knowledge about ADHD believe that students with ADHD suffer from emotional, academic, and social issues. Such teachers ask for assistance to implement the most appropriate interventions for each
student. Teachers who have very little knowledge about ADHD believe that these students are simply misbehaving. Such teachers avoid asking for assistance because they think they are capable of handling these students themselves. According to DiBattista and Shepherd these teachers also end up sharing the wrong information with their colleagues, which ultimately affects the teaching practices of other teachers as well (as cited by Kos et al., 2006).

2.4. Responsibility and interventions

2.4.1 Responsibility of teachers

Teachers have a big responsibility to learn about ADHD so they do not mislead other teachers and are able to better support students with ADHD. The *Individuals with Disabilities Education Act* in the United States of America states that students with disabilities should obtain an education in the least “restrictive environment” with other peers (as cited by Furtick, 2010, p. 2). Furtick reported that “teachers, schools and educational systems must design and implement appropriate practices and strategies that will address all students, including those diagnosed with disabilities” (p. 3). Research shows that most elementary students with ADHD are unqualified to be enrolled in special education programs (Nowacek & Mamlin, 2007; Blotnicky-Gallant et al., 2015). Hence, it is the responsibility of general elementary teachers to provide effective interventions and modifications. By changing the instructional structure, teachers can assist students and simplify learning for all students. Since ADHD indicators are diverse, educators must try various techniques to help these students (Furtick, 2010). Students with ADHD who struggle in general elementary classrooms can succeed if teachers can properly modify their instruction for these students (Murphy, 2015; Harlacher at al., 2006).
2.4.2 Evidence-Based Interventions

Modifying classroom instruction is a recommended evidence-based intervention (Fabiano, 2003). The types of interventions used by teachers are correlated with the amount of in-service training they received. Martinussen et al. (2011) found that teachers who had more in-service training implemented evidence-based interventions for students with ADHD. According to Daly et al. “evidence-based treatments for ADHD include medication, behavioural interventions, and a combination of the two” (as cited by Blotnicky-Gallant et al., 2015, p. 5). Studies conducted by Pelham and Gnagy, Toomey et al., and Chronis et al. found that it is important to implement behavioural interventions because medication alone has many limitations: about 30% of children have a negative response to ADHD medication, about 20% stop taking the medication within the first 2 years, and the medication is not that effective in helping students academically and socially since it is meant to address biological factors, not external factors (as cited by Blotnicky-Gallant et al., 2015). In contrast with Blotnicky-Gallant et al. and Vereb and DiPerna (2004) found that the amount of experience teachers had with teaching students with ADHD was unrelated to the knowledge of ADHD and its treatments. Their findings indicated that experience only helps teachers accept and understand medication interventions and not behavioural interventions. A meta-analysis was done on 174 studies by Fabiano et al. (2009) and the outcome emphasized that behavioural interventions were highly effective for students with ADHD. This study was the first complete analysis on behavioural interventions that compiled all studies of ADHD interventions and analyzed them thoroughly since the first study completed in 1976.
2.4.3 Lack of Proper Modifications and Interventions

Behavioural interventions plus academic interventions are key to student success. Two studies were conducted to examine what types of academic and behavioural modifications teachers implemented and their consistency in implementing these interventions (Nowacek & Mamlin, 2007). Academic interventions focus on helping students’ complete tasks and excel in academics, while behavioural interventions focus on behavioural symptoms of ADHD such as their hyperactivity and moods swings (Harlacher et al., 2006). The participants of the study were experienced teachers who had been recognized for their effectiveness by their principals and had worked with students with ADHD previously. Nowacek and Mamlin (2007) found in their two studies that despite the teachers’ experience, knowledge, and effectiveness, teachers lacked the ability to implement proper systematic interventions for primary and junior students with ADHD. Few modifications were provided for students with ADHD and often were random and unsystematic. The teachers made very few individual modifications, but rather focused on strategies that would benefit the classroom as a whole. A teacher commented that she let students with ADHD “pick their partners on some days and provided little leeway and flexibility” (Nowacek & Mamlin, 2007, p. 31). The few individual modifications made by teachers such as scribing and allowing students to pick their group members were effective interventions in the classroom, however they became ineffective because teachers did not implement them systematically. On similar grounds, Fabiano and Pelham (2003) found that minor behavioural modifications such as rewarding students who met behaviour goals resulted in instant improvement in behaviour. However, this intervention like many others becomes ineffective when teachers fail to individualize it for students with ADHD. Bekle (2004) found that a majority of pre-service and in-service teachers believed that individual interaction with students
with ADHD was more effective than classroom based interventions. Due to lack of intervention from teachers or parents, students with ADHD end up struggling in their studies. (Furtick, 2010).

In addition to implementing consistent modifications and interventions, it is essential for teachers to change their instructional structure. Furtick (2010) conducted a study to determine if constructive teaching practices were more efficient than traditional practices for elementary students with ADHD. Through in-depth interviews and classroom observations, Furtick concluded that using constructive practices in teaching is more beneficial for developing “social skills, social acceptance, and on-task behaviour” for students with ADHD (p. 86). DeVries et al. stated that “the constructivist learning theory supports the belief that students must actually construct and reconstruct knowledge and be provided with opportunities to interact with their environment in order to learn” (as cited by Furtick, 2010, p. 9). This approach also helps teachers because they are also learners, hence Murphy (2015) reported that through a constructive approach teachers are able to create their own knowledge and as a result, revise and modify their existing practices. Murphy conducted a study to see what effects teachers have on their teaching when they engage in professional development (PD) through collaborative learning communities (CLC). Five teachers were selected based on the following criteria: they were general education elementary teachers, they were teaching a student with ADHD, and they wanted to learn more about ADHD. Murphy concluded that when teachers learned through collaboration with other teachers, they gained more confidence, compassion, and understanding and were less stressed while teaching students with ADHD.

Overall, Eckert and Hintze reported that upon the establishment of a treatment plan after a diagnosis, implementing a classroom-intervention may become the respective teacher’s responsibility to ensure the diagnosis is being treated appropriately (as cited by Vereb &
DiPerna, 2004). The consequence of disagreement between teachers regarding a treatment plan is the incomplete or inappropriate implementation of interventions, and at times a refusal to implement the intervention. As a result, according to Vereb and DiPerna (2004), the intervention is thus rendered ineffective. Hence it is essential for teachers to have the knowledge and understanding to implement effective interventions and make appropriate modifications to help students with ADHD. Also, since a teacher’s practice is often very interrelated and collaborative with other teachers and, it is essential for them to have a consensus on treatments recommended by the physicians.

2.4.4 Parental Involvement

In addition to working collaboratively with other professionals, teachers also need to work collaboratively with the parents of students with ADHD for optimal success. Fishman and Nickerson (2015) found in their study that parents were more involved with their children when they asked for help, thus, teachers should encourage students with ADHD to ask for parental support. Mills (2011) concluded that parents of children with ADHD communicated with their teachers on a regular basis and often oversaw their homework. Teachers have a big influence on parents, as they are usually the first ones to screen ADHD symptoms and refer a student for further assessment. After diagnosis, parents’ stay in contact with the teachers and look for guidance, however teachers find that parents are not providing proper support and supervision on children’s homework. Hence, it is essential for teachers to be patient and sensitive with these parents as they may be struggling to find methods that work with their child, just like teachers experience.
2.5 Summary

The overall findings from this literature review on ADHD indicates that teachers have the basic knowledge but require more training to help them understand and better implement different interventions and modifications to help these students succeed. In addition, I come from a Pakistani culture where mental health issues such as ADHD are often overlooked. In my culture, ADHD is seen as nothing more than a behavioural problem, which can be fixed through discipline. However, this literature review clearly found that ADHD is a legitimate problem with many students across the globe. These students require a great amount of support from their parents, and more importantly their teachers.

Most research regarding teachers’ knowledge and training has been conducted in the United States. There is a gap in the research done in Canada about how teachers support students with ADHD. My study will help fill this gap by providing research on this topic through the lens of Canadian teachers. In addition, as most studies done in this subject area are quantitative, this study will explore teachers’ experiences with students with ADHD through a qualitative lens. This will allow for a deeper understanding of teachers’ attitudes, strategies and training to support students with ADHD.
Chapter 3: Research Methodology

3.0 Introduction / Overview

The purpose of this study was to investigate the extent to which and the ways in which teachers support students with ADHD in elementary classrooms. Particularly, I was interested in how prepared teachers are to teach students with ADHD and what modifications and interventions teachers provide for these students. Although studies show that teachers possess knowledge about the symptoms of ADHD (Glass & Wegar, 2000; Blotnicky-Gallant, Martin, McGonnell & Corkum, 2015), they have limited knowledge about the treatments. Their level of knowledge about the condition does not correlate with the types of treatments such as behaviour and academic interventions (Vereb & DiPerna, 2004; Glass & Wegar; Blotnicky-Gallant et al.). I also wanted to delve into areas in which teachers can improve their teaching methods as well. There is a consensus among studies that teachers require additional training to better support students with ADHD (Bussing, Gary, Leon, Garvan & Reid, 2002; Martinussen, Tannock, & Chaban, 2011; Nowacek & Mamlín, 2007; Bekle, 2004).

To investigate how teachers support students with ADHD I used a qualitative research approach. In this chapter I begin by reviewing the general approach and procedure of the study that highlights the main components of qualitative research and provides a rationale for why it is used. This chapter also sheds light on the instruments used for data collection and provides details on participant sampling and recruitment procedures. It goes on to examine and evaluate the techniques used to analyze the data and provides ethical implications of the study. Furthermore, I identify the limitations and highlight the strengths of the study.
3.1 Research Approach and Procedures

For this study, I used a qualitative research methodology to investigate how teachers support students with ADHD in elementary classrooms. The subject matter of supporting students with ADHD is a worthy topic because it is relevant, timely, significant, and interesting (Tracy, 2010). Due to a significant increase in children being diagnosed with this disorder, it is important to see what teachers are doing to support these students. Qualitative research is an ideal method for this study because it allows the researcher to better understand the participant in their natural setting. This approach accepts that there are multiple ways to understand the world, however it focuses on “discovering the meanings seen by those who are being researched and with understanding their view of the world rather than that of the researchers” (Jones, 1995, p. 2). This approach allowed me to better understand the extent to which and the ways in which teachers support students with ADHD in an elementary classroom through the lens of the participants.

Qualitative research includes various strategies that share certain characteristics such as collecting evidence, finding answers, generating new questions, and using predetermined methods to gain knowledge and further understandings (Bogdan & Biklen, 2006). This research approach was the most appropriate given my topic because it allowed me to produce rigorous data by allowing each form of data to be a clue to produce a greater understanding of the study. I collected data through a literature review on this topic and conducted semi-structured interviews with two teachers. These teachers were selected based on the sampling criteria that was developed based on the research question. This study is inductive, which means that the research was not done to prove a hypothesis but rather to get directions through the interview questions (Bogdan & Biklen). In addition, this method allowed me to focus on understanding the deeper meaning about the perceptions and understandings that the participants held about supporting
students with ADHD (Creswell, 2013). This method permitted me to be transparent to my participants about my positionality, allowing them to understand why this topic is important to me and how my background might affect my findings.

3.2 Instruments of Data Collection

The most used data collection method in qualitative research is interviews (DiCicco-Bloom & Crabtree, 2006). Qualitative interviews can be unstructured, semi-structured or structured. This study specifically followed a semi-structured interview protocol which is defined as the “prepared questioning guided by identified themes in a consistent and systematic manner interposed with probes designed to elicit more elaborate responses” (Qu & Dumay, 2011, p. 246). Such interviews provide detailed information about the beliefs and experiences of the participants (Turner, 2010). Hence, implementing semi-structured interviews was the most appropriate way to collect data, as it allowed me to create questions pertaining to my research focus with the flexibility of other questions emerging from the conversation ((DiCicco-Bloom & Crabtree). Furthermore, I was able to incorporate a diverse set of themes that emerged in my literature review that helped direct the conversation on how teachers support students with ADHD in an elementary classroom (Qu & Dumay, 2011). This process provided me with in-depth information regarding teachers’ experiences, beliefs and viewpoints of students with ADHD and also the types of interventions they provide for them. The semi-structured interview used standardized open-ended interview questions where all teachers received the same set of open-ended questions. The open-ended nature of this interview allowed “the informants to answer from their own frame of reference rather than from one structured by prearranged questions” (Bogdan & Biklen, 2006, p. 3). This allowed room for flexibility and follow-up questions based on the responses of the participants (Turner). Teachers were able to give as
much detailed information as they wanted. Overall, interviews provide researchers with a way to learn and gain a better understanding about others' experiences (Qu & Dumay, 2011). However, each interviewee might have a different perception of certain areas regardless of having the same background and as a result, communication and interpretation often becomes difficult. To overcome this limitation, I ensured my interview was conducted with care and was well planned so it could provide accurate data. The complete list of interview questions are found at the end of this paper (Appendix B).

3.3 Participants

Under this section I reviewed the sampling criteria established for recruiting teachers. I also review a wide range of possible ways to recruit teachers. Additionally, I included a separate section that introduced the participants.

3.3.1 Sampling criterion

A strong qualitative study includes a well-defined selective sample (Carr, 1994). The teachers I recruited for this study were required that met the following criteria: They must be a member of the Ontario College of Teachers (OCT), they must be teaching in the Greater Toronto Area (GTA), they must be teaching in a general, mainstream elementary classroom for at least three years, they must have experience (current or prior) teaching student(s) with ADHD, and they must be honest and willing to share their experiences.

These criteria were essential to this research study as the overall goal of the study was to investigate how teachers can support students with ADHD in an elementary classroom. The literature review revealed a gap in qualitative research done in Canada. Most research about teachers’ knowledge, training, and the support they provide for students with ADHD had been conducted in the United States. Hence, it was essential to recruit teachers who were members of
the OCT and teaching in the GTA. In addition, I ensured that the selected teachers were from general elementary classrooms because special education classrooms are different in terms of their resources. Also, special education teachers often receive more training in special needs such as additional qualification courses and considering that I am focusing on general elementary classrooms, this could have skewed my data. The teachers also needed to have at least three years of teaching experience because this would allow them to have sufficient time to experience a wide range of exceptionalities in their classroom, which would allow for an in-depth insight on their experiences. Lastly, these teachers had to have experience-teaching students with ADHD so that they were able to converse about their knowledge, beliefs, perspectives and experiences about teaching these students. Overall, these teachers had to be honest and willing to share their experiences so the data collected can be authentic and accurate.

3.3.2 Sampling Procedures

Sampling procedures are an essential element of qualitative research. This procedure consists of a four-step process: creating a sampling criterion based on the research study question, determining the sample size, selecting a sample strategy and recruiting participants (Robinson, 2014). For the first step I set a target population based on the criteria I created. For this research study my sample size consisted of two teachers. The third step of the sampling procedure consisted of selecting a sampling strategy. Qualitative research methodology includes several forms of sampling strategies. Convenience sampling is the method used to select willing participants from a list of people who meet the sampling criteria. These participants are recruited based on a “first-come-first-serve basis” (Robinson, p. 32). In contrast, purposive sampling strategy is not random but rather carefully selected. Samples are categorized according to the sampling criteria to ensure that a particular group is included in the study. This strategy is based
on the belief that certain individuals may have a more important and unique perspective to offer on the research topic. Similar to purposive sampling, there is quota sampling, which is the process of selecting participants with specific characteristics. Each category must have a minimum amount of participants that the researcher must recruit (Mason, 2002). For this study I used a combination of purposeful and convenience sampling to recruit teachers. The purposeful sampling procedure was used based on the sampling criteria I created. I ensured I recruited participants that met the criteria. I also combined convenience sampling in my sampling procedure due to the limited parameters of the study and methodology. This allowed me to easily recruit participants due to accessibility. I am part of a large community of teaching colleagues, and have relied on my existing personal contact and networks to recruit teachers.

The last step in the sampling procedure for qualitative research is recruitment. To recruit teacher participants I contacted OCT elementary Facebook groups and asked them to post my sampling criteria on their wall. I also contacted my previous associate teachers and teachers I have volunteered with in the past and provided them with an overview of my study. Then, to see whether they fit the criteria I conducted a series of informal questions. If they fit my criteria, I asked if they would be interested in being a participant in my study. I also met with my OISE professors to talk about my area of research. Additionally, I went to my elementary school I studied at and spoke to all my teachers that I still have contact with about my research. Lastly, I contacted the Learning Disability Association of Ontario and asked them to post information about my study and contact information on their website. For all of my recruiting methods I ensured all ethical issues were addressed. Rather than asking for the information of teachers, I provided them with my information, which allowed for more transparency. Also, the teachers were able to contact me if they were interested after receiving my information. This ensured that
teachers who contacted me were volunteering and willing to participate, as opposed feeling as if it was an obligation. This ensured a higher chance of honesty and genuine concern for the topic of study.

3.3.3 Participant biographies

Ash (pseudonym)

Ash is a 28 years old kindergarten teacher. She has an undergraduate Bachelor of Arts degree in Early Childhood Education & a degree in Bachelors of Education. She has not taken any special education and mental health courses but general inclusive courses. She is teaching in the GTA for the past 3 years. The classrooms that she taught have been diverse that included students with different exceptionalities, including students with ADHD.

Laura (pseudonym)

Laura is 26 years old grade 9 teacher. She completed her undergraduate education at the University of Toronto in English language and Literature and French as a Second language after which she completed her masters of teaching and learning at McGill. She currently teaches in the GTA and has experience teaching grade 6. Her teaching education program integrated learning about specific needs within each course since the Quebec Education Program involves inclusive classrooms where most students with specific needs are integrated into a regular classroom. She also took a course entitled ‘diverse learners,’ which discussed specific intervention strategies for specific needs.

3.4 Data Analysis

Data analysis is a multiple step process that includes organizing the data so it can be analyzed, reading and reflecting on the data, coding the data by categorizing it into themes, interpreting the data and then reporting the findings (Creswell, 2013). To begin the data analysis
process, I first organized the data by saving the recorded interviews on my computer in a folder and then I transcribed the data. Qualitative research is a process where the researcher bases the findings of the research on the participants’ perspectives. Hence, a crucial element of data analysis is being honest with the participants. Sutton and Austin (2015) stated, “It is their voice that the researcher is trying to hear, so that they can be interpreted and reported on for others to read and learn from” (p. 227). For that reason, each interview was audio recorded and then transcribed. Transcribing is a difficult process; however it must be done to transfer spoken word to written for analysis purposes. After transcribing the audio recording of each interview I read it over while simultaneously listening to the audio to correct any errors and then sent it back to the participants to ensure accuracy. Subsequently, I read the transcribed interviews in a holistic manner a few times to get a sense of the entire interview before I broke it into different categories (Creswell, 2009). I made reflective notes and memos in the margin of the transcripts outlining the key words, ideas and concepts. After making notes, I began to code the data. Creswell (2009) defined coding as a method of organizing the data into different parts and sections for a better understanding of each section. In this process I identified the “topics, issues, similarities and differences” that were found in the transcriptions (Sutton & Austin, p. 228). I colour coded different interviews so I can physically see which teacher said what. Through coding, I searched for common themes and divergences focusing on the types of interventions and modifications my participants mentioned they provide for their students with ADHD. I conducted an interpretative phenomenological analysis of the data, which means that I did not only try to understand by reading what the teacher participants told me about their experiences, but attempted to get an in depth and deeper understanding of their responses. Analyzing null data is essential for a quality qualitative research study; it is not enough to just describe what the
participants said in the interview. According to Sutton and Austin, “interpretative phenomenological analysis is about getting underneath what a person is saying to try to truly understand the world from his or her perspective” (p. 228). After all the themes were determined they were categorized and the findings were interpreted and then reported.

Interpreting data is a process where the researcher looks at the bigger picture to make sense of the data (Creswell, 2013). According to Spiggle (1994), “Arriving at an interpretation results from an emergent, holistic, extra logical insight, or understanding” (p. 497). When interpreting I began counting the amount of times a theme or pattern occurred (Miles & Huberman, 1994). This helped me discover the important and significant themes that emerged in the data and also allowed me to analyze the data in an honest manner, protecting the data against biases (Miles & Huberman, 1994). I then looked for patterns, which helped me put the pieces together, thus helping me see the bigger picture. My initial impressions of the data also known as plausibility, was further analyzed. I constantly referred back to my literature review to see how my data connected with other studies. In addition, I clustered the themes and patterns that emerged during coding into different categories. According to Miles and Huberman, clustering allows researchers to “understand a phenomenon better by grouping, then conceptualizing objects that have similar patterns or characteristics” (p. 219). Furthermore, using metaphors is also an important component of interpreting data. Through metaphors researchers are able find “correspondences, similarities, and identities” between different areas of the data (Spiggle, p. 498). By generating metaphors I was able to reduce the data, make patterns, decenter myself by questioning the data, and connect my findings to the work of others (Miles and Huberman). Through interpretations I was able to draw meaningful insights and report the findings.
3.5 Ethical Review Procedures

Before reporting the findings, it is essential to go over the ethical review procedures. Ethics in simple terms means “doing good and avoiding harm” (Orb, Eisenhauer & Wynaden, 2000). Research has the potential to harm participants as it aims to understand the undiscovered. Orb et al. stated that human rights violation occurs mostly in research. According to the Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council of Canada, and Social Sciences and Humanities Research Council of Canada (2010), throughout history, there have been many instances where participants have been harmed both physically and psychologically by the research/researcher. Hence, it is essential for researchers to constantly look for ethical issues in each phase of the study, “prior to conducting the study, beginning to conduct the study, collecting data, analyzing data, reporting data and publishing study,” and find ways to address these issues (Creswell, 2013, pp. 58-59). Overall, it is important to have ethical principles in place to prevent harm and protect the participants of any research study (Orb et al., 2000)

I followed the ethical review approval procedures for the Master of Teaching program at OISE. All participants were sent an email and were given a brief overview of the study before they agreed to participate. The identity of all participants was kept confidential, including any identifying markers such as the name of their school. Although there were no known risks to participate, there was a possibility of the participants’ feelings vulnerable due to the questions asked. Hence, for the comfort of the participants I sent them the interview questions in advance (Appendix B). I also created a consent letter (Appendix A), where I reassured the participants by stating that they have the right to pass and not answer questions that they felt uncomfortable responding to. They were also given the right to withdraw from the study at any time they so
wished (Appendix A). The interview was audio recorded on my laptop and mobile device that was password protected. I also ensured my participants were told that the data would be held up to 5 years and then destroyed (Appendix A). All participants were given a copy of the transcript shortly after the interview to ensure accuracy. This allowed me to correct any discrepancies before I conducted the data analysis. Lastly, each participant was required to sign the consent letter (Appendix A) for the approval of being interviewed and audio recorded, which included an overview of the study, participant criteria, ethical considerations, and expectations of participants. I kept a hard copy of the consent form and gave one copy to each participant.

3.6 Methodological Limitations and Strengths

Due to the ethical parameters for the Master of Teaching Research Project there were a few limitations. The limitations included selective literature review, small sample size resulting in a lack of generalizability, one data collection method, and interviewing only teachers. The first limitation was that I had to be very selective when choosing the research for the literature review. There are many academic research studies done on students with ADHD, teachers’ knowledge and beliefs about ADHD, and the interventions and strategies these teachers implement for these students. However, I was unable to incorporate all relevant literature because of limited time I had been allotted. Due to the vast amount of research done I had to be very selective when choosing which research studies to incorporate in my literature review. The second limitation was the small sample size. I was able to see through the lens of two teachers. Even though I collected rich data from these two individuals, it did not provide enough information to determine how teachers support students’ in general elementary classrooms nor could the findings be generalized about other teachers. Thirdly, due to the strict ethical review protocols of both OISE and the school boards I was only able to conduct semi-structured
interviews. For a strong qualitative study for this subject matter, observations of students and teachers with interviews would have been more beneficial. Bogdan and Biklen (2006) reported that one of the best ways to collect data is through participant observation, where the researcher “enters the world of the people he or she plans to study, gets to know them and earns their trust, and systematically keeps a detailed written record of what is heard and observed” (p. 2). Observations of teachers and students would have allowed me to develop a deeper understanding of how effective the support provided by teachers are for students with ADHD. The last limitation was that I only interviewed teachers, which limited the findings of my study. Conducting interviews with children diagnosed with ADHD, and the experience of their parents would have undoubtedly strengthened the findings.

In contrast, conducting semi-structured interviews allowed me to gather extensive data from teachers due to the open-ended nature of the questions (Denzin & Lincoln, 2012). Carr (1994) states that due to the interactive relationship between the participant and researcher, the researcher is able to obtain valuable and meaningful data. The interviews were conducted in a conversational fashion and flowed naturally, allowing teachers to express their views and focus on what is most important to them in a natural stress free manner (Dornyei, 2007, p. 140). This resulted in teachers providing rich detailed responses allowing me to get a clear insight into their experiences. A survey would have limited the responses of the teachers; hence an interview was more appropriate and beneficial. Through interviews, teachers were provided with the opportunity to reflect on their experiences and practices and as a result they provided detailed and rigorous information (Turner, 2010). Another strength of this study was that it took place in Ontario. Most research I found in my literature review took place in the United States, thus this research study provided rigorous data on this topic through the lens of Ontario teachers’.
3.7 Conclusion

This chapter outlined how the investigation of teachers supporting students with ADHD in an elementary classroom took place (i.e. which research method was used). It highlighted the key features of qualitative research and further provided justification as to why this was the most beneficial method. This chapter also stipulated details on interviews conducted that were used for data collection. It also specified the details and justification of participants’ recruitment and sampling procedures. The data analysis method was discussed and also justified. This chapter also addressed the ethical implications of the study and identified the limitations and strengths involved. Next, chapter four will report the research findings in the form of different themes that emerged in the data analysis process.
Chapter 4: Research Findings

4.0 Introduction / Overview

This chapter reports the findings of how teachers support students with ADHD in an elementary classroom. In detail, this study investigated how educated and prepared teachers are to support students with ADHD and the types of strategies they use in general elementary classrooms. Qualitative interviews were conducted and the interviews were transcribed. After transcribing the interviews from two elementary teachers in the GTA, notes/memos in the margins were made which began the coding process (Creswell, 2009). After subsequently analyzing and categorizing the codes, four common themes were identified. The themes answer the main research question: How do teachers prepare and support students with ADHD, and how they can improve their teaching to better support these students. This chapter discusses these four themes and sub-themes in detail with support from the literature review in chapter two and their significance. Names of the participants mentioned are pseudonyms.

The following four themes were identified:

1. Teachers’ preparedness to teach students with ADHD.
2. Teachers’ knowledge about ADHD.
3. Practical challenges faced by teachers’.
4. Strategies implemented in the classroom.

The first theme discusses how prepared teachers are when teaching students with ADHD. The subtheme focuses on teachers’ education courses and the inadequate training they had received.

The second theme examines the amount of knowledge teachers have. In detail, through the sub-themes, it looks at teachers’ belief about ADHD being a biological disorder, the gender difference in ADHD diagnosis and the positive views of students that teachers hold. Next, the
third theme discusses the challenges teachers’ face when teaching these students in the general classroom. It focuses on stress that is developed among teachers because of the challenges they face. The last theme provides various strategies that teachers can implement in their classrooms to better support their students with ADHD.

4.1 Findings

4.1.1 Theme 1: Teachers’ preparedness to teach students with ADHD

This theme analyzes teachers’ preparedness to teach students with ADHD. It discusses the type of courses the participants of this study took and analyzes their effectiveness. Additionally, this theme examines the amount of pre-service and in-service training that has been provided to teachers. Both participants agreed that in their teachers’ education they were taught theory but were not given practical strategies to support students with ADHD. Ash felt overwhelmed with her first experience dealing with ADHD students. She stated, “I felt nervous and found it difficult to manage students with ADHD.” Laura had similar experiences and admitted that she did not have the strategies or the support from the school to help support the student. As a result, both participants followed up with their student’s parents and did their own research to discover potential effective strategies. A range of studies have reported similar findings, in that most teacher candidates receive very little education and training to support students with ADHD (Bussing et al., 2002; Martinussen et al., 2011; Couture et al., 2003). Hence most teachers resort to self-study methods such as reading various books and articles Laura claimed that over time she felt a lot more prepared. However, when it came to implementing her learning in her own class, she said, “I found that it took some time to get to know students needs.” This was due to inadequate training that was not provided to teachers.
4.1.1.1 Sub-theme 1: Lack of adequate pre-service and in-service training

As suggested by the literature (Bussing et al., 2002) and my research participants, teacher education programs and in-service training fail to provide effective strategies to support students with ADHD. Laura completed a diverse learners course as part of her teachers education program, which discussed specific intervention strategies for specific needs. To her, this course was very useful. She asserted, “It allowed me to really learn and practice practical strategies in differentiation but also assessment strategies and really breaking down progressions of learning for students with specific needs.” Ash on the other hand, said her teacher education gave her general knowledge and not practical strategies. According to the recommendations for teacher education in the province of Ontario report, the most common concern was to “improve special education instruction in teacher education programs” (Bennett & Woloshyn, 2003, p. 12). Teacher candidates and in-service teachers found that they needed skills and strategies to support students with learning disabilities, which were not provided in the course. From Ash’s interview it is apparent that general special education courses lack effective teaching strategies and practices.

Additionally, both participants took additional qualification (AQ) courses in special education. Laura found that it was significantly less effective then the diverse learners course that she had taken previously. She reported that there was no real measure of understanding or application of the material. Many of the assignments were not meaningful and did not require critical thinking. Overall, she described the special education AQ course as a basic understanding course: she said, “Although the course was a good refresher of information, there was no real classroom application.” This is important to note because both teachers had limited special education training. This means that practical skills and strategies were not taught in the courses,
yet both took the class in hopes of receiving that information. As a result, they had to resort to self-study methods when teaching. Drawing from her teaching experience, Laura said:

I think teachers’ education taught me basic knowledge about what is ADHD and its symptoms. However, there is always room to learn more and I think that life long learning is a teacher’s responsibility, which means that they must make the effort to continue to learn more depending on the type of students they teach. As a teacher, I had a general understanding of ADHD. Now that I teach classes where more than 60% of the class has been identified with either a behavioural or learning need and all of them have quite complex IEPs, this has motivated me to continue to learn new strategies and be flexible in my philosophy and method of teaching.

From her experience, it can be noted that Laura had to educate herself to effectively teach her students who had different learning needs and abilities. According to Bussing and colleagues (2002), teachers who have a high number of students with ADHD in their classroom receive more special education training. Yet, even though the majority of Laura’s students were assessed as special needs students, she received no such training. Ash speaks to this as well. She said that she did learn about ADHD in school, however, she believed practical experiences were a lot more enriching. Many studies found that training provides teachers with accurate information about ADHD and practical strategies that can be used to assist these students (Bussing et al., 2002; Couture et al., 2003; Zentall & Javorsky, 2007; Martinussen et al., 2011). Pre-service and in-service training is vital for teachers to help students with ADHD to excel emotionally, socially, and academically and yet, the participants did not receive such training. As a result, it increases teacher’s level of confidence, amount of knowledge, and their attitude towards students with ADHD.
4.1.2 Theme 2: Teachers knowledge about ADHD

Due to lack of adequate training, both participants had a very basic understanding of ADHD. Their knowledge consisted of the definition and symptoms of ADHD as well as the belief that ADHD is a biological disorder. In addition, the participants were able to identify a difference among male and female students diagnosed with ADHD. Overall, despite having limited knowledge, the participants had positive views towards students with ADHD.

Laura defined ADHD as a learning disorder that involves a mental condition that makes it difficult for one to maintain focus for a long time span. ADHD causes difficulty in managing time to get tasks done. She also stated, “It may also cause anxiety or irritable behaviour.” Ash specified the behaviours students with ADHD had, which included trouble paying attention, trouble sitting still for even a short period of time, touching and fidgeting, not making eye contact when being spoken to, and displaying difficulty in following one to two step instructions. Laura observed that because of inattentiveness during instruction time and being disruptive in the classroom, it often leads those students to lag behind academically, and miss out on learning opportunities. She added, that their processing of information becomes delayed and consequently takes them longer to complete a task in contrast to the other students who do not have ADHD. This suggests that over-stimulation in the classroom can frustrate the students and disconnect them from their learning.

These results were supported by other studies that found that although teachers have great knowledge of the symptoms of ADHD, they do not have enough knowledge about the different treatments and strategies available to help students with ADHD (Glass & Wegar, 2000; Blotnický-Gallant et al., 2015). In other words, teachers know what students cannot do but do not know what students have the potential of doing. Teachers’ knowledge is limited to the
symptoms of ADHD but lacks the different types of treatments and interventions, such as behaviour and academic modifications, to help these students excel (Vereb & DiPerna, 2004; Glass & Wegar, 2000; Blotnicky-Gallant et al., 2015).

4.1.2.1 Sub-theme 1: Biological disorder

Both participants believed that ADHD is a biological disorder. Ash mentioned that students with ADHD have lower brain metabolism in specific areas such as their attention span. Thus, students have difficulty paying attention for long periods of time. Laura agreed with Ash and affirmed the following:

I know ADHD involves neurological processors where students are born with slower brain functions in certain areas. Students can often become over stimulated and react in a manner that can seem unfocused to teachers. Often students need to be stimulated through other means such as kinaesthetically to allow room for focused learning to occur. This is interesting because both teachers disregarded the idea of ADHD potentially being socially constructed. They did not believe factors such as large class sizes could cause ADHD. Their beliefs on ADHD align with current research, which found that most teachers believe ADHD is a biological disorder and not a socially constructed disorder (Einarsdottir, 2008; Bekle, 2004; Glass & Wegar, 2000). Additionally, both participants had a consensus on using medical interventions along with behaviour and academic modifications to assist these students. Ash and Laura emphasized that students with ADHD should use medication to help stimulate the brain but teachers should also include interventions and modifications in the classrooms to assist them. Ash believed that changing the surroundings of a student such as reducing class size and providing stress balls could benefit these students. Because both participants took a course relating to mental health and special education, either in their undergraduate degree or as an AQ,
they were more open to both types of treatment. Liesveld (2007) reported that teachers, who had knowledge about ADHD, were supportive of medical treatment and the use of classroom strategies to help support students who had ADHD. This means that teachers did not heavily rely on medication but also made the effort to support the students by implementing various strategies.

4.1.2.2 Sub-theme 2: Gender differences and the overrepresentation of boys

Laura noticed that boys were more likely to be diagnosed with ADHD than girls. Research has found that boys are diagnosed with ADHD more than girls (Abikoff et al., 2002). Ash also speaks to this; she recognized the gender difference between the representations. She said, “I also know that ADHD does affect more male than female students and students are more often medically treated. Research supports her claim; Abikoff et al. (2002) and Sciutto, Nolfi, & Bluhm (2004) confirmed that there is an over-diagnosis of boys, and that teachers often refer more boys for testing than females. Additionally, Laura found boys with ADHD tended to be more disruptive and had a harder time paying attention as compared to girls who had the same disorder. Laura’s observation is supported by a study that affirmed that boys with ADHD displayed more non-compliant and disruptive behaviours such as calling out and aggression, while girls with ADHD were not as disruptive but rather had a harder time staying on task (Abikoff et al., 2002).

4.1.2.3 Sub-theme 3: Teachers conceptions of students with ADHD

Despite the stigma around students with ADHD, the more teachers know about ADHD the more favourable they think of their students. This is substantiated by the literature and the interview findings. Students with ADHD are often known as the underachievers and disruptive students in the class (Martinussen, Tannock, & Chaban, 2011; DuPaul et al., 2006; Blotnicky-
Gallant et al., 2015). In the interview, Laura acknowledged that students with ADHD struggled to focus. However, she also stated:

- I think they definitely struggle with focus, however, I find with my students particularly they have more ability to self-regulate than they have been led to believe. I find they also struggle with the stigma of always being “disruptive” or the “student who is always off-task.” This in later years (high school) becomes a situation where they have to save that face in front of their friends and it often becomes cool or a defense mechanism to be off task even when they have much more self-regulation ability.

Mulholland et al. (2015) and Blotnicky-Gallant et al. (2015) found that many teachers had positive beliefs about students with ADHD. Specifically, Liesveld (2007) discovered a relationship between the amount of knowledge teachers had and the types of views they held about these students. He concluded that teachers who had more knowledge had more positive views about students with ADHD. This is interesting to note as Laura took more special education courses in her undergraduate degree, specifically the diverse learners class, which she found was very beneficial for her. In contrast, Ash only took a general course about inclusivity. When analyzing both transcripts it was evident that Laura talked more positively about her students, constantly emphasizing their potential. She found that students can surpass their own expectations of themselves, “Often they buy into the idea that they are so ’different’ and ‘can not learn that way’ without even realizing their potential.” Teachers must be aware of the stigma around students with special needs and work towards removing those labels. Students are often labeled at a very young age and it often turns into them accepting their label of being ‘bad’ or ‘unfocussed’.
Laura concluded, “It may be the first thing that the student may say to the teacher when they come in to the classroom, ‘teacher, I have ADHD’.” It is important to remember that students are not their labels. A side effect of carrying or being identified by a label is that the student may confine him/herself within the walls of that label, which may impede any potential for intellectual and social development.

**4.1.3 Theme 3: Practical challenges faced by teachers’**

Teaching students with ADHD can be very challenging especially if the teachers do not have the necessary tools and strategies to effectively manage and teach these students. The challenges can cause stress and anxiety. Both participants shared many challenges they faced when teaching students with ADHD and as a result became stressed. When asked about their experiences, both participants referred to them as “challenging and frustrating.” Laura started by saying, “teaching students with ADHD has always been a challenge.” The participants emphasized the difficulty they had managing these students because of the oversized classes, “with so many students it is difficult for me to meet the needs of the students with ADHD in my classroom,” stated Ash. She also found it difficult to implement lessons when a student with ADHD was being disruptive despite being told several times to settle down. Bussing et al. (2002) found that teachers faced many obstacles, which included overcrowded classrooms, shortage of time to fully address students’ needs, and the severity of ADHD symptoms. These obstacles stopped teachers from receiving successful training and often caused stress in teachers.

**4.1.3.1 Sub-theme 1: Teachers are stressed when teaching students with ADHD**

Through the interviews, it was confirmed that teachers could develop feelings of stress when teaching students with ADHD. Due to the lack of preparation and inadequate training, both
participants stated that they were constantly stressed when teaching students with ADHD, especially in their first few years of teaching. Ash had a very difficult time managing her class in her first year because the students with ADHD would always interrupt and talk at inappropriate times during class. A study about ADHD found that teachers stress arises from the symptoms of ADHD, as they can be difficult to manage (Bussing et al., 2002). Teachers like Laura and Ash in the study had a difficult time managing their stress triggered by students with ADHD, especially in their first year as they felt they had so many expectations to meet. Ash stated, “In my first year of teaching I was very stressed because I had four students with ADHD who all had behavioural issues.” According to Greene et al. (2015), stress depends on the teachers’ ability to handle difficult situations and the behaviour of their students. In Ash’s case, her stress was triggered by students’ behaviours. Her confidence in teaching dropped and she felt that she was unable to effectively teach her students with ADHD. However, it is important to note that stress is not always caused by an isolated incident. It can be the result of many factors in addition to students’ behaviours such as “teachers’ psychological status, school environment, and community environment” (Bussing et al., 2002, p. 86). Thus, training for teachers should include practical strategies to support students with ADHD, alongside strategies to manage stress.

4.1.4 Theme 4: Strategies used by teachers

To overcome the challenges faced by teachers, the two participants implemented various different strategies to help their students. Laura used classroom supports like ball chairs and yoga balls for students to sit on. Laura affirmed that manipulatives, which are objects that redirect students to focus and better understand a concept or skill, were also very important in trying to make teaching flexible, as long as it included the learning outcome in mind. Ash also identified many strategies through her observations in class. She observed:
Students really liked activities where they had to do something like physically matching things or pasting or competitions between groups of students with very short times to switch. I found that certain students had things that worked for them, like taking a walk with a timer or using a ball with a timer or giving a reward like ‘time using the goo’ or time to play with the connects.

From Ash’s observation it is evident that she began to assess what worked and what did not. These observations helped her build strategies and reassess her teaching to meet the needs of her students. She provided positive reinforcements and was flexible in providing extra time for completing tasks. Both participants learned and used a variety of strategies despite not having the adequate training needed. Teachers have a responsibility to learn about disabilities and design and implement appropriate interventions and strategies to support all students. From this, it is confirmed that strategies develop over time when adequate supports are not in place.

Additionally, Ash used a resource called Zones of Regulations that helps with behaviour management of students with varying learning disabilities, including ADHD. She explained that this resource helps students remain calm and helps them regain focus. A research study emphasized the importance of implementing behavioural interventions, concluding that medication is not effective on its own (Blotnicky-Gallant et al., 2015). Overall, both participants used effective strategies, however, their strategies were not consistent. Laura admitted that she let her students take walks if they needed at times. Ash spoke to this as well, “I wrote for my students with ADHD when I could.” Research shows that when strategies are inconsistent and unsystematic, they become ineffective (Nowacek & Mamlin, 2007). Ash and Laura did not implement strategies consistently, rather they only implemented them when they could.
4.2 Conclusion

Firstly, the participants were unprepared in their first few years to teach students with ADHD. One major factor was that the educational training provided in teachers’ education, and AQ courses focused more on theory rather than practical strategies. When new teachers entered the classroom they did not have the necessary tools and strategies to support these students. Thus, both participants resorted to self-study methods.

Secondly, the participants had a general understanding about ADHD. They only knew the symptoms of ADHD and the causes, but lacked knowledge about the interventions and modifications that assist in effectively teaching these students. There was an overall understanding that ADHD is a biological disorder. However, this did not affect teachers’ openness to try different treatments and interventions in the classroom in addition to medications. This was due to the positive belief teachers’ held about students with ADHD. The participants truly believed in the well being of their students. However, they often struggled providing adequate support.

As a result, while teaching students with ADHD, teachers faced many challenges as the student’s behaviour was often frustrating and challenging. Common challenges included difficulty managing students and implementing lessons. These challenges, in addition to receiving inadequate training, caused the participants to experience feelings of stress and anxiety. Thus, it was evident that training should also include stress management techniques.

To overcome the challenges and alleviate stress, teachers implemented various strategies to support students with ADHD. Strategies included providing extra time on tests and providing classroom supports, such as stress balls and manipulatives. The participants learned through trial
and error as they were continuously observing their students. Both participants implemented great strategies, however they were ineffective due to inconsistency.

Chapter 5 will provide the implications for the educational community. It will also discuss implications of this study for me as a researcher and as a teacher. This research paper will conclude with recommendations based on the 4 themes that were identified in this chapter, along with areas for further research.
Chapter 5: Implications

5.0 Introduction

The present study was designed to investigate how teachers support students with ADHD. The findings support the existing literature pertaining to how prepared teachers are to teach students with ADHD. The data collected highlighted the challenges these teachers are facing and how lack of training is causing stress in teachers. This chapter summarizes the research findings, highlights the present study’s implications for various stakeholders, policy makers, provides several recommendations, and suggests directions for future research.

5.1 Overview of Key Findings and their Significance

This qualitative study builds on face-to-face interviews with two elementary school teachers. After transcribing, coding, categorizing, and analyzing the data, four themes were identified that affected teachers’ teaching practices for students with ADHD. The following four themes were identified: (1) Teachers’ preparedness to teach students with ADHD, (2) Teachers’ knowledge about ADHD, (3) Practical challenges faced by teachers’, (4) Strategies implemented in the classroom. It was evident from both interviews that teachers were unable to effectively support students with ADHD.

The first theme, teachers’ preparedness to teach students with ADHD, highlighted the importance of in-service and pre-service training in teachers’ education. The interviewees were not given sufficient training on ADHD or how to cope with students with ADHD. Additionally, in teachers’ education they were taught mostly theory, ignoring practical strategies. As a result, these teachers were unprepared to teach students with ADHD, which led them to educate themselves on their own merit. They used books, online resources, and various different tools to better prepare to teach students with ADHD.
The second theme, teachers’ knowledge about ADHD, highlighted the importance of educating teachers on the different types of interventions and strategies that they could use in a general elementary classroom. The study found that teachers had a very basic understanding of ADHD, which was limited to the causes, definition, and symptoms of ADHD. Both teachers believed that ADHD is a biological disorder and not socially constructed. Overall, teachers lacked adequate knowledge about the behavioural and academic interventions that could be implemented to assist these students. The present study further found that teachers who had more knowledge regarding ADHD also had a more positive perception of those students who were diagnosed with ADHD. This served to remind us that educational training is essential when teaching students with ADHD.

The third theme, challenges faced by teachers, highlighted the importance of having stress management training for teachers. Due to large class sizes and inadequate training; both teachers found teaching students with ADHD stressful and frustrating. This was because they had difficulty managing their classrooms.

The above theme served to remind us that teachers’ need to be provided with the necessary tools, for themselves and their students, and stress management strategies to effectively teach students with varying needs. This was the subject matter for the final theme, which highlighted that strategies develop with experience over time. Both teachers agreed that the best way they learned was through experience. However, they also agreed that if they had been given more training, they would have been able to provide adequate support and assistance to students with ADHD. However, they chose to educate themselves in an informal capacity through trial and error. Overall, the entire study emphasized the importance of investing more in special education so teachers are better equipped to teach students with ADHD from the very beginning of their
5.2 Implications

Although this study was limited to two teacher perspectives, the insights gained from both teachers were meaningful as they were reflective of the findings in existing literature. This study contributes to the research in this area with many implications for the educational community and for my professional identity and practice.

5.2.1 The Educational Community

Special education is a rising concern in classrooms as 1 in 5 students in Ontario have mental health issues (CAMH, 2012). In broad strokes, this study should serve as a reminder to policymakers and curriculum planners that the lack of adequate funding for teachers in teacher’s education and in-service training in special education is hindering the progression of students with ADHD. This implication is consistent with other studies that state that teachers require additional training to better support students with ADHD (Bussing et al., 2002; Martinussen et al., 2011; Nowacek & Mamlin, 2007; Bekle, 2004). The Ministry of Education needs to allocate more funding for special education and training for all teacher candidates and practicing teachers.

Additionally, students with ADHD would suffer if teachers do not use adequate interventions to support them. Students will continue to fall behind in academics and increasingly face emotional and social problems. They will also be labelled as behavioural students, resulting in them being placed in the wrong programs. This limits their potential and leads to isolation, demotivation, and an increase in drop out rates. Frank-Briggs (2011), found that the problems students with ADHD face linger into their adult years if they are not provided with the proper support. Thus, it is essential for teachers to provide evidence-based interventions based on their students needs to help them excel in all aspects of their lives.
5.2.2 My Professional Identity and Practice

As a teacher candidate, with a friend diagnosed with ADHD, I have seen first hand the struggles he faced throughout school due to inadequate support from teachers. I can see the positive effects of strategies that are now implemented in his life. The present study also has implications for teachers like myself working with students with ADHD. First, it is essential to acknowledge that students with ADHD have the ability to outperform other students if they are provided with appropriate accommodations and interventions based on their varying needs (Schuck & Crinella, 2005). If teachers want to see their students excel, they must truly believe in them and not judge them based on the symptoms of ADHD. The assumptions we make often arise from beliefs that have not been examined. Identifying your biases can be very difficult but it is a crucial step for further improving educating techniques. As educators, it is fundamental that we focus on our attention on the students’ needs rather than form judgement based on the stigma attached to ADHD. The assumptions that we make about our students can harm them as a person and also harm their learning. Assumptions prevent us from seeing our students for who they really are. This study has allowed me to challenge my own beliefs, values, and practices and assess their impact on my daily practices as a future teacher. For an example, if a student is constantly fidgeting, I cannot assume that he/she is not paying attention.

Secondly, to eliminate the barriers these students face, teachers need to provide differentiated instructions based on each individual’s needs in various formats. As a teacher, I intend to use multiple strategies based on the needs of my students. However, before teachers can implement appropriate strategies in their classrooms it is essential to acknowledge that the experiences of Ash and Linda may be of many teachers who do not feel prepared to teach students with ADHD. I personally learn more from training workshops and educational classes.
Thus, particularly in regards to teaching strategies teachers need to be provided with more meaningful training with practical strategies. If I am not given training and support from the school administration I will find my own resources through various sources, like books and online resources. I would make sure that I communicate with parents and work with them to meet the needs of my students. I believe it is essential to keep a healthy communication system between teacher and parents because parents can provide adequate information about their children that can help support them better.

5.3 Recommendations

The implications of the present study point specifically to several recommendations for ministries of education, school administrators, and teachers. Three recommendations are outlined below:

a. Improve Teachers Education

b. School Administration Initiatives

c. Reflective Practice

5.3.1 Improve Teachers Education

The Premier of Ontario, and Minister of Education need to invest more in special education. A vital step towards improvement would be for The Ministry of Education to fund workshops that would help educate and support teachers with strategies to help meet the needs of students with ADHD. A potential solution may be having a helpline that teachers can call to ask questions or share concerns with special education experts. Additionally, the special education courses and the additional qualification course in teachers’ education program need to include practical strategies that teachers can utilize in their classrooms. A small but effective example of a practical strategy is allowing students to play with a stress ball to help them focus. Discussing strategies as intricate and practical as this one may give more insight to teachers into the kinds of
efforts they will need to make to ensure the success of each of their students. It could help teachers break free of remaining stagnant in their teaching style.

Teachers’ education must model good teaching through useful special education courses. Theory is only good when accompanied with useful strategies. The special education course in teacher education should span two years, as this would give teachers more exposure to special education. Furthermore, it is important for the Ministry of Education to outline the roles and responsibilities of teachers when teaching students with ADHD and special needs. The responsibilities should be clear and concise and should also list various resources teachers can use.

### 5.3.2 School Administration Initiatives

In addition to improving special education, principals need to provide professional development opportunities for teachers. These opportunities and workshops would provide teachers with resources and strategies to support students with ADHD. This would allow teachers to revise and build on their knowledge through training and become better equipped to meet the varying needs of their classroom.

Additionally, principals should create a positive school environment where students are encouraged to talk about mental health issues and stress management strategies. It is important for principals to define mental health and state their vision by organizing a mental health awareness week. Through this, teachers will have constructive discussions on mental health and stress management, ensuring that all students take part in both the discussions and various activities, such as conducting presentations. Principals should provide tools and resources to teachers so that they can better assist students with ADHD such as ball chairs, updated technology, workshops on how to speak to students struggling with mental health issues, and
how to recognize when a student is going through a moment of hardship and requires additional support.

5.3.3 Reflective Practices

Furthermore, until the education of teachers and training is changed, teachers can reflect and revise their own practice. Teachers need to engage in reflective practice and ask themselves what works and what does not. They need to assess themselves and see how else they can improve to best address the needs of their students with ADHD. To begin, teachers need to deconstruct the notion of ‘other’, which is when students with ADHD are perceived to fall outside of normalcy. Being made to feel like the ‘other’ in the classroom is a major obstacle in creating an inclusive environment. Teachers should be having open discussions with their classroom about respecting their peers and including those who have different abilities.

Additionally, teachers need to establish an open communication system between the child’s parents and the team of professionals at the school. Teachers could host a parent’s night for all parents where they can discuss the different needs of the classroom. Teachers and parents should talk about ADHD and mental health. This is the key to understanding the child as a whole and how to best meet their learning needs. Until more training is provided, teachers should continue to conduct research on their own and find ways through various recourses such as books and online alternatives to support students with ADHD. Elementary teachers need to model good teaching through checking for understanding, application strategies, and diversified assessments.

5.4 Areas for Further Research

In as much as the present study has served to expand upon the extant literature, it has also highlighted the need for further study. In future research endeavours, it is recommended that a greater emphasis be placed upon investigating strategies that seem to be working. I believe it is important to observe effective strategies so teachers can expand on those, and try and find ways
to bring these strategies to more areas. Also this study should include focus groups with students with ADHD asking what they would need, their opinion on what works and what does not. In addition, their respective teachers should also be interviewed regarding the strategies they used. This area of research will highlight strategies that work well and where teachers need to improve.

Furthermore, the issue of how minority students with ADHD who come from a different racial and/or socio-economic status are treated should also be studied to see how their identity plays a role in the type of support they receive from their teachers. It will be interesting to observe behaviours of their teachers to see if race plays a role in teaching students with ADHD. Since most studies had thus far been conducted for the American context, it seems pertinent that more studies conducted in Canada would provide a greater insight on how Canadian teachers support students with ADHD.

5.5 Concluding Comments

The findings of this study had many implications for the educational community and for myself as a future teacher. It has led to many useful recommendations and areas of future research while highlighting the importance for change in the way teachers are educated. As stated by Frank-Briggs, (2011) ADHD “affects about 3 to 5% of children globally,” which in itself is an alarming figure that needs to be reflected in the way future teachers deal with these students (p. 291). Not only is it important for teachers to be educated to help students diagnosed with ADHD, but also for the families of those students to be given the support they need to help their child. With more emphasis given to educating current and future generations of teachers who will have students with ADHD, the chances of those students excelling emotionally, socially, and academically would be greatly increased.
References


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Appendix A: Letter of Signed Consent

Date:

Dear _______________________________,

My name is Jabeen Azmat 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 will focus on how teachers support students with Attention Deficit Hyperactive Disorder (ADHD) in elementary classrooms. I am interested in interviewing teachers who are members of the Ontario College of Teachers (OCT), teaching in the Greater Toronto Area (GTA), teaching in a general, mainstream elementary classroom for at least 2 years, have experience (current or prior) teaching student(s) with ADHD, and are honest and willing to share their experiences. I think that your knowledge and experience will provide insights on this topic.

Your participation in this research will involve one 45-60 minute interview, which will be audio-recorded and later transcribed. I would be grateful if you would allow me to interview you at a place and time convenient for you. 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. 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 participate. 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,

Jabeen Azmat
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 ____________ and agree to participate in an interview for the purposes described. I agree to have the interview audio-recorded.

Signature: ______________________________________
Name: (printed) _______________________________________________
Date: ________________________________________________________
Appendix B: Interview Protocol

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 teachers support students with ADHD in elementary classrooms for the purpose of investigating how educated and prepared teachers are to teach students with ADHD and the types of strategies they are using to support these students in an elementary classroom. This interview will last approximately 45-60 minutes, and I will ask you a series of questions focused on your knowledge, beliefs, practices and challenges regarding students who have ADHD. 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. As I explained in the consent letter, this interview will be audio-recorded. Do you have any questions before we begin?

**Background Information**
1. What grade do you teach?
2. How many years of teaching experience do you have?
3. What is your educational background?
4. Did your initial teachers’ education include any special education/mental health courses? If yes, please describe.
5. Did you take any additional qualification courses in special education? If yes, please describe

**Teacher Perspectives/Beliefs**
6. What do you know about ADHD?
7. Where does most of your knowledge about ADHD come from?
8. How was your experience teaching student(s) with ADHD?
9. How prepared did you feel teaching students with ADHD when you first started?
10. How do you identify students with ADHD?
11. In your experience, what kinds of barriers have your students with ADHD faced? E.g. what have or do they struggled with?
12. How has your education/teaching experience adequately or inadequately prepared you support students with ADHD?
13. How do your students with ADHD fit in your classroom community? E.g. are they included? Excluded?

**Teacher Practices**
14. How do you prepare yourself to teach students with ADHD?
15. How do you teach kids who are unable to settle down and listen?
16. What techniques do you use to support students with ADHD?
17. What accommodations/modifications if any, have you made for students with ADHD?
18. How do you evaluate/assess students with ADHD in relation to other students in the class?
19. According to your experience, what has been the most effective strategy to support students with ADHD?
20. What resources do you use if any, to support students with ADHD?
21. What kind of surprises have you faced while teaching students with ADHD?

**Supports and Challenges**

22. What challenges if any, have you faced when teaching students with ADHD?

**Next Steps**

23. What can teachers do to better support their students with ADHD?
24. What would be a way to improve teachers’ education regarding students with ADHD?

Thank you for your participation in this research study.