UNIVERSITY OF EDUCATION, WINNEBA

ASSESSMENT OF TEACHING AND LEARNING OF PRE-SCHOOLERS WITH ATTENTION DEFICIT DISORDER IN THE MAINSTREAM SCHOOL IN THE SUHUM MUNICIPALITY

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DECLARATION

Student's Declaration

I, Agbeko Evelyn Dzibodi**,** hereby declare that this thesis, with the exception of quotations and references contained in published works which have all been identified and duly acknowledged, is entirely my own original work, and that it has not been submitted, either in part or whole, for another degree elsewhere.

Signature ……..

Date……

Supervisor's Declaration

I hereby declare that the preparation and presentation of this dissertation were done in accordance with the guidelines for supervision of thesis laid down by the University of Education, Winneba.

NAME OF SUPERVISOR: **Daniel Buku** (PhD)

Signature: ……..

Date……..

DEDICATION

This Work Is Dedicated to My Lovely Husband Mr Tulasi Kweku Kafui and to my sons Manuel, Alvin and Lemvel Tulasi.

ACKNOWLEDGEMENTS

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ABSTRACT

The purpose of the study was to assists teachers' assessment of learners with attention deficit disorder in teaching and learning in the mainstream schools in the Suhum Municipality. The sequential explanatory design was employed. The total population size was 56 early childhood teachers and learners in the Municipality. A census selection was employed to select 50 teachers. The sampling technique led to the selection of Early childhood teachers in the Municipality based on their academic qualification in the Municipality. Maximal variation sampling technique allows the researcher to categorise participants according to their different academic, professional qualification and gender, for data collection. (6) pupils were selected through purposive sampling technique by observation. Two instruments, interview guide and a questionnaire were used for data collection. Findings from objective one, prevalence of ADHD symptoms as rated by teachers, the study found out that majority of the respondents affirmed that there are about 1-5 pupils with ADHD in their class. Findings from objective two, teachers' assessment of learners with ADHD in the sociopersonal context suggest with most of the respondents were of the view that pupils with ADHD; make careless mistakes in school work often had difficulty sustaining attention in task or play, often had difficulty organizing task and activities. from objective three signifies that a huge percentage of the respondents affirmed that pupils with ADHD have trouble following instructions often forget to write down homework assignments, do them, or bring completed work to school. The following recommendations were suggested that Managing pre-scholars with ADHD is very difficult and so teachers are encouraged to do their best to create a conducive atmosphere for such pupils in the classroom. The characteristics of pupils with ADHD portrays them as destructive but teachers are advised to organize class activities to meet the unique needs of every pupil in the classroom. Teachers are urged to monitor the pupils with ADHA in class and especially during lessons since they may disrupt the process and disturb other pupils.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Attention deficit hyperactive disorder (ADHD) is a heterogeneous group of disorders characterized by a high level of inattentive, hyperactive and impulsive behaviour that begins in childhood according to Ghana Education Service (GES, 2014). It is developmentally inappropriate and impairs the functional life of the affected child at home and at school. Indeed, attention deficit hyperactive disorder (ADHD) is the most common of the childhood developmental disorders which may persist into adolescence and adulthood. Children who are affected by this disorder present medical and psychosocial problems in the community they may find themselves later in life. These problems include substance abuse, child and sexual abuse, suicides and homicides, school dropouts, difficulties with relationships, prostitution, armed robbery and many other criminal activities (GES, 2014; Lawson, 2014).

Also, Mash and Wolfe (2012) were of the view that even though the causes of ADHD are unknown, there are numerous associated findings which may be etiologically significant. Recently, a gene has reliably been demonstrated to be associated with ADHD and currently there are more than twelve different scientific teams worldwide in search of more genes which may be associated with ADHD (Mash & Wolfe, 2012). The recently demonstrated genetic basis is reported to be a rare chromosome deletion and duplication known as Copy Number Variant (CNV) which is associated with increased risk of different neurodevelopmental disorders such as autism, schizophrenia, intellectual disability, and recently ADHD (Louw, 2019; Mash & Wolfe, 2012). Since these Copy Number Variants (CNV) are rare, it raises the

possibility that mutation may be associated developmentally with ADHD (Louw, 2019).

Zental (2016) also reported significant amount of Copy Number Variants (CNV) to be more common in children with ADHD than those without the disorder. There is also greater concordance of ADHD in monozygotic than dizygotic twins. It has been noted that siblings of hyperactive parents have twice the risk of having ADHD as compared to the general population. Meanwhile, Adewuya and Famuyiwa (2007) observed that the heritability from twin studies ranges from 0.5-0.9 and there is also a fivefold increase in first degree relatives. The authors noted that biological parents of children with ADHD have a higher risk of developing ADHD than adoptive parents. ADHD also has long been thought to be a result of minimal or subtle brain damage during prenatal, perinatal and post natal periods of early life (Adewuya & Famuyiwa, 2007).

The International Consensus Statement on ADHD by Agbu (2013) indicates that children with ADHD have few or no friends, performance poorly at school and are likely to experience teenage pregnancy and sexually transmitted diseases. Agbu added that they are more likely to be involved in multiple road accidents due to over speeding.

As adults, they mismanage their lifes and endanger the lifes of others (Agbu, 2013). The prevalence of ADHD is reported to range from two percent (2%) to twenty percent (20%) in grade-school children. However, a more conservative figure is 3-5% of elementary school children. ADHD is more common in boys than girls with a lower gender ratio of 3 to 1 and a higher ratio 5 to 1 (Atkins, Pelham, Licht, 2010).

Attention deficit hyperactivity disorder (ADHD) is reportedly the most pervasive disorder of childhood affecting approximately 3% to 5% of school-aged children with

prevalence rates increasing significantly over the past two decades (Fatmi, 2008; LeRoy & Simpson, 1996). Children with ADHD experience symptoms of inattention, hyperactivity, or impulsivity above and beyond what is developmentally appropriate. While it is usually first diagnosed in childhood, many children diagnosed with ADHD demonstrate symptoms that persist into adolescence and adulthood (Langley, 2010; Fatmi, 2008).

Inattention according to Adewuya & Famuyiwa (2007) may manifest in social, occupational, and academic settings. Symptoms include difficulty with sustained attention, being unable to complete tasks, not following through on instructions and requests, and inability to complete chores and schoolwork. The authors noted that the symptoms of hyperactivity include fidgeting, inability to sit still in classroom settings, being always "on the go," and excessive talking, while a symptom of impulsivity is difficulty waiting their turn. It should be noted that in the new *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 2013) criteria, children can be diagnosed with ADHD up to age 12 and not age 6 as was previously recommended, while several symptoms must occur in more than one setting (Adewuya & Famuyiwa, 2007; GES, 2014).

Epidemiological data suggest the prevalence of ADHD has significantly increased over the past two decades. This coupled with the fact that over the last 40 years, majority of research on ADHD has come out of the United States has led many to believe that ADHD is a disorder rooted in cultural and social factors apparently prevalent in the United States (Faraone, Sergeant, Gillberg, & Biederman, 2013; LeRoy & Simpson, 1996). However, more and more research is emerging that suggests ADHD is a global concern. Indeed, pooled prevalence rates across several continents suggest a prevalence rate of more than 5% (Polanczyk, Silva de Lima,

Horta, Biederman, & Rohde, 2007), a result supported by a recent meta-analysis (Willcutt, 2019).

Despite these figures, failure to identify the underlying biological deficits, a growing doubt of the medical and pharmaceutical fraternities and cultural variations ensure that ADHD remains a controversial condition (GES, 2014; Stolzer, 2017). In short, the etiology of ADHD is highly complex and still poorly understood with genetic, epigenetic, neurobiological, environmental and psychosocial factors all contributing. ADHD is an important area of childhood disorder to investigate because of the behavioural problems which may occur later in life. The present study was to examine "Teachers' assessment of learners with attention deficit disorder in teaching and learning in the mainstream in the Suhum Municipality".

1.2 Statement of the Problem

The researcher having taught in three different Kindergarten schools for several years, observed that some learners in the Suhum Municipality exhibit characters such as inattentiveness, distractibility and recklessness and attention–seeking behaviours. The researcher observed that pupils have learning problems that makes it difficult for them to focus and pay attention in class. Sometimes, they are seen fidgeting and talking during lessons and this has resulted in poor academic performance. Their presence in the class makes class control very difficult for the teachers since they disrupt the whole teaching and learning process. Socially, pupils with ADHD are shun away in a group because their possessive and aggressive behaviour. They are always seen fighting with non-ADHD pupils. It is against this background that the research or deems it necessary to carry out a study of this nature on Teachers' assessment of learners with attention deficit disorder in teaching and learning in the mainstream school in the Suhum Municipality".

1.3 Purpose of the Study

The purpose of the study was to assess teachers' assessment of learners with attention deficit disorder in teaching and learning in the mainstream schools in the Suhum Municipality.

1.4 Objectives of the Study

This study was designed specifically to:

1. determine the prevalence of ADHD symptoms as rated by teachers in the Suhum Municipality.
2. find out how teachers assess learners with ADHD in the socio-personal context in the Suhum Municipality.
3. examine the effects of ADHD on teaching and learning in the classroom context in the Suhum Municipality.
4. identify strategies for handling learners with ADHD in the Suhum Municipality.

1.5 Research Questions

The study attempted to provide answers to the following research questions.

1. What is the prevalence of ADHD symptoms as rated by early childhood teachers in the Suhum Municipality?

2. What is the assessment of teachers on learners with ADHD in the socio-personal context in the Suhum Municipality?

3. What are the effects of ADHD on teaching and learning in the classroom context in the Suhum Municipality?

4. What are the strategies for handling learners with ADHD in the mainstream schools Suhum Municipality?

1.6 Significance of the Study

It is envisaged that the study will generate knowledge on ADHD among learners in the public basic schools in the Suhum Municipality. It would provide a baseline information to teachers, parents guidance personnel, school administrators and policy makers in Education. The research finding will assist teachers in recognizing that there are individual difference in the classroom and would know how to deal with pupils with ADHD. Moreover, parents will find the research findings valuable in gaining a better understanding of what it is like for them to deal with a diverse group of pupils every day. Better understanding may lead parents to be even more involved and supportive of teachers regarding their children with ADHD.

Besides, the research findings will also bring relief to students with ADHD in the form of improved academic achievements as well as peer relationships. The study is expected to add new knowledge to the existing ones in the area of ADHD in the basic schools. It is further hoped that the findings will reveal the training needs of teachers in respect to teaching in inclusive classrooms especially in respect to children with ADHD. This, notwithstanding the findings will enlighten educational planners and owners of educational institutions about the need to include special needs education in the curriculum for trainee teachers as well as in-service training for practicing teachers in the various schools.

1.7 Delimitation of the Study

Ideally, a study of this nature should cover all public basic schools in Ghana but this was not possible due to time and financial constraints. As a result, the scope of the study was limited to the public basic schools in the Suhum Municipality in the Eastern Region of Ghana. The study was also focused primarily on the assessment of teachers' of learners with attention deficit disorder in Suhum Municipality. The

findings and recommendations could however be applicable to the other public basic schools the study could not cover.

1.8 Organization of the Study

The research work was organized in five chapters. Chapter one presents the general introduction to the study. This is comprised of the background to the study, statement of the problem, purpose and objectives of the study, research questions, significance of the study, delimitation, limitations, organization of the study. While chapter two dealt with the review of the related literature, chapter three also discussed the research methodology which also consists of the research design, study area, population, sample size, sampling technique, research instruments, method of data collection, data analysis and lastly, ethical considerations.

Moreover, the fourth chapter discusses of the results and findings from the fieldwork and chapter five talked about the summary of findings, conclusion and recommendations of the study.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction

This chapter provides a review of related literature on the topic, "Teachers' assessment of learners with attention deficit disorder (ADHD) in teaching and learning in the mainstream school in the Suhum Municipality". The following sub-topics were discussed from an historical view point to current thinking, theoretical framework, prevalence of ADHD symptoms, teachers' assessment of pre-scholars with ADHD in the sociopersonal context, effects of ADHD on teaching and learning in the classroom context, strategies for handling pre-scholars with ADHD and summary of literature review.

2.1 Theoretical Framework of the Study

The theoretical framework of this study was discussed in relation to psychology of human development. According to Bronfenbrenner (1989), psychologically, human development is shaped by various interacting systems, which include the micro-system, the meso-system, the exo-system and the macro-system. The core conceptual underpinning of the ecological model is that human development is a function of the influences from all of the various systems and the relationships that exist between the systems (cited in Stolzer, 2017). The ADHD child is the focus of this study and therefore the environments of the child also plays an important role. Educators who handle these children are directly involved in this study.

According to Bronfenbrenner (1989) the ecological model is a theory that focused on the environment as it is perceived to influence behaviour and development of a person. Therefore, how a person perceives an environment, whether it is a school or a home, as opposed to how it may exist in reality, will influence the person's behaviour

and development. Thus, how an educator experiences learners within a classroom may influence his/her own development as a person. How the educator perceives the learner who may have ADHD, may also influence the learner's development as a person (cited in Stolzer, 2017). It is important to note that growth and development referred to within the ecological model does not refer to the conventional psychological processes of perception, or motivation but rather on the content that is the perceived, thought about or acquired as knowledge and how the nature of this changes as a function of a person's experience to interact with the environment (Bronfenbrenner, 1989).

Bronfenbrenner (1989) defines development as "the person's evolving conception of the ecological environment and his relation to it, as well as the person's growing capacity to discover, sustain or alter its properties". Thus, the educator, as the target or focus of the study, relies on his/her perceptions of his/her environment and the systems that exist within it for human growth and development to occur (cited in Stolzer, 2017). How the educator experiences the school (and some components that make up a school, for example: Learners, Learners with ADHD, School environment, Principal, the Head of Department, Colleagues, Parents, School Governing Body) can influence the development of the educator. The ecological model focuses on the relationships between individuals and their physical context, viewing different levels of systems of the social environment as systems where the functioning of the whole is dependent on the interaction between all the systems (Stolzer, 2017).

Bronfenbrenner (1989) proposed that the various systems are bi-directional in nature as they are continually influencing us and we in turn are continually influencing them. As the school environment impacts and influences the educator, so does the educator impact and influence the school. As the educator impacts and influences the

school so it impacts and influences the learner. The importance of the settings and the influence the settings may have on the educator and the learners within his/her classroom is significant. Thus, the micro and meso-systems have been exported from the other contexts to emphasize the fact that the study focuses on how the educators experience learners who may have ADHD (cited in Stolzer, 2017).

2.2 Prevalence of ADHD symptoms

According to American Psychiatric Association (2013), the criteria needed for an accurate diagnosis are available in the DSM-IV and include three major characteristics: impulsivity, inattention, and hyperactivity. The association further explained the three major characteristics of ADHD: Impulsivity can be seen in children who blurt out answers, have difficulty awaiting their turn, and who interrupt others; inattention can be defined as inattention to detail, careless mistakes in schoolwork, difficulty maintaining attention and listening, not completing assigned tasks, deficits in organizational skills, losing needed materials, avoiding tasks, forgetfulness, and being distracted by environmental stimuli; hyperactivity can be exemplified by being fidgety, leaving areas without permission, running excessively, having difficulty playing quietly, being in constant motion, and talking frequently (American Psychiatric Association, 2013).

The characteristics of ADHD children are present in all children at some point in time. What makes the characteristics of these children abnormal is when the behaviors are excessive in their intensity, persistence, and patterning. Making an accurate diagnosis of ADHD is often difficult due to the subjective nature of the outlined criteria and the fact that many children demonstrate the symptoms of ADHD at one time or another (American Psychiatric Association, 2013; Logan et al., 2001). Other symptoms associated with ADHD include reduced abilities in social skills,

self-control, organization, and time management (Baird, Stevenson & Williams, 2000).

Delay aversion is often cited as a characteristic of ADHD. Children with ADHD, when presented with a choice, are often unable to wait for a larger reward and instead opt for the smaller reward that will be received in the shortest amount of time (Kuntsi & Stevenson, 2001). In another study by Kuntsi, Oosterlaan and Stevenson (2001), hyperactive children not only chose the immediate reward, but they often found the waiting period aversive. This was measured by how often the children talked or engaged in other activities while waiting for the larger reward. In the classroom, children with ADHD are often unable to focus their attention long enough to receive a larger award of the teacher's approval, instead opting for smaller rewards, such as peer attention or immediate negative teacher attention (Kuntsi et al., 2001).

Typically, ADHD symptoms occur in early childhood, before age 7 (American Psychiatric Association, 2013), and are most often observed in the school setting. Therefore, teacher observations along with behavior rating scales are essential for determining the presence of ADHD in children (Wolraich & Baumgaerte, 1996). Teacher ratings are often relied on because teachers have the opportunity to observe children in different school settings for long periods of time. In the past, teachers have identified more than the 3-5% of students as having ADHD. For example, as many as 15% of the sample in one study would have been labeled ADHD by teachers (Miranda et al., 2016).

Moore, Glynn and Gold (1993) found that teachers over-identified six to fifteen percent of students as having ADHD. One reason for this over-identification is that any individual with a typical behavior is likely to get more attention (Shelley-Tremblay & Rosen, 1996). Chin et al (2011) also noted that while children with

ADHD receive more attention, most of it is negative. School personnel also often encourage parents to receive a medical diagnosis by directly or indirectly encouraging the parents to seek medication for their child (Reid, Vasa, Maag, & Wright, 1994; Taylor & Larson, 1998). ADHD should not be diagnosed by using one instrument, but rather, from the child's history, from parents, and from teacher reports (Reid et al., 1994). Parents must be careful when attending to popular magazines, television shows, and other media that contain information about ADHD because many of these sources portray the disorder in such a way that almost any child could be identified. All children exhibit socially unacceptable behaviors at some point in time, which is a normal part of the maturation process. Some researchers believe that ADHD is a disorder that represents a poor fit between the individual and his/her environment (Shelley-Tremblay & Rosen, 1996).

The behaviors that define inattention in the DSM-IV are largely related to academic activities (Wolraich & Baumgaertel, 1996). The classroom is an environment in which students must demonstrate self-application and self-discipline. Classroom environments also demand attentional focus and motor control while in the presence of various stimuli (Jensen, 1997). Children with ADHD can be argumentative, immature, rejected by peers, and overactive. These characteristics make learning difficult for the ADHD student as well as his/her peers in the classroom (Taylor & Larson, 1998).

Most classroom environments favor the student who is able to sit quietly, maintain attention by ignoring distractions, and analyze a situation before responding (Jensen, 1997). This becomes an arduous task for those students with attentional and behavioral problems. Since all children are required to receive an education, it is likely that the majority of ADHD students will be identified and served within the

classroom environment (Reid, Vasa, Maag, & Wright, 1994). In fact, teachers probably have one or two students in their classrooms with ADHD. Teachers need to be aware of the classifications for ADHD, as well as diagnostic procedures, and behavioral characteristics (Taylor & Larson, 1998). This knowledge will help teachers understand how to better instruct ADHD students. In a study by Hawkins et al. (1991), teachers indicated that they were not specifically trained to teach students with ADHD. Hawkins et al. recommended that teachers must obtain adequate training in effective assessment methods, such as the use, application, and interpretation of direct observation techniques, questionnaires, social histories, standardized tests, medical reports, etc. They also suggested that this information be presented at a pre-service level because of the probability that every teacher will encounter students with ADHD (Hawkins, Martin, Blanchard & Brady 1991).

Rating scales are often used in the process of identifying students with ADHD. Rating scales provide normative information and also allow for comparisons to be made between students and their peers (D' Alonzo, 1996). One particular rating scale, the ADHD Rating Scale-IV (School Version), was developed to specifically obtain teacher ratings of the frequency of the symptoms of ADHD as described in the DSM-IV. This rating scale is presented on a 4-point Likert scale (Erskine, 2010). The standardization sample of the ADHD Rating Scale-IV yielded gender, age, and ethnic differences. Boys were reported to engage in more ADHD behaviors than girls and younger children received higher ratings of ADHD than older children, and African American children obtained higher ratings of ADHD than Caucasian and Latino children. Teachers also over-identified ADHD in every age group for both genders in the standardization sample. The prevalence rate for children *5* to 7 years of age was 25.3%, 23.8% for 8 to 10 year-old children, 21.5% for 11to13 year-olds, and 15.0%

for 14 to 18 year-olds. The results show that the overall prevalence of ADHD may decline with age (Power, Anastopoulos, & Reid, 1998; Erskine, 2010).

Similarly, Cooper (2016) agreed with Agbu (2013) denote that although figures vary according to where and when studies are carried out and the diagnostic criteria used, it appears that ADHD is present throughout the world. Internationally, prevalence rates are conservatively estimated between 3% and 7% among children from a wide variety of cultures and geographical regions (Cooper, 2016). More recent international estimates suggest that between 4% and 10% or 8% and 12% of children worldwide are affected by ADHD (Agbu, 2013). Symptoms emerge more clearly between the ages 6 and 9 according to Cooper (2016), meaning that the disorder is considered to be more prevalent in the age range 6 to 11 years. Estimate for different countries vary as Lamptey (2017) suggest 1% to 6% of school age children in the use with a diagnosis reported in the Africa and Asia. Moreover, an African data collected in 2013 suggests that incidence rates varied significantly from a low of approximately 5% to a high of 8% in children age 4 to 14 years old. The above ratios given suggested that ADHD cases are rare in African schools (Cooper, 2016; Lamptey, 2017).

In the United Kingdom, it is difficult to ascertain accurate national figures. The breakdown of figures provided in government statistics does not include a discrete category for ADHD (Maras & Kerdmanyne, 2017). The authors submitted that although it is not clear how many pupils currently have a diagnosis of ADHD, the incidence is increasing. Figures published by the National Institute for Clinical Excellence (NICE) (2016) for instance had indicated an estimate of 5% of school aged children of about 69,000 between 6 to16 years old in Sub-Saharan Africa. The estimated prevalence of all ADHD is considerably higher around 5% of school-aged

children. The same report had given 345,000 and 21,000 cases of ADHD in England and South Africa respectively. On average this means that in a mainstream class of 30 children it is likely that at least one child will have ADHD. From the above it means that ADHD distribution is not even, with some schools having a disproportionate number of pupils displaying ADHD-type characteristics (Maras & Kerdmanyne, 2017; Twi-Yeboah, 2019).

According to Barkley (2016), incidence estimates depend significantly on which ADHD subtypes are included. Boys outnumber girls by 4:1 in the hyperactive impulsive/mixed type groups, but boys and girls are represented in about equal number in the non-hyperactive type. Barkley denote that there are several sources for information on the prevalence of ADHD among school-age children (Barkley, 2016). The most recent estimates based on international survey had been provided by Centers for Disease Control and Prevention (CDC) as cited in (Willcutt, 2019). However, data presented by the CDC in a study in West Africa suggests that for children between 417 years, highlighted data include 5.1 million children (8.8%) or 1 in 11 of this age group between 4-17 years have a current diagnosis of ADHD. Meanwhile, in the same report, 6.8% of children ages 4-10 were ADHD. The average age of current ADHD diagnosis was 6years, including mild ADHD diagnosed at 7 years, moderate ADHD diagnosed at 6 years and severe ADHD diagnosed at 4 years. The same report indicates that 3.5 million children representing 6.9% of children with current ADHD were taking medication for ADHD. These reports indicate that ADHD prevalence were higher among pupils of school going age (Willcutt, 2019).

In a report by Langley (2010), data on the most common co-occurring conditions among 4 million pupils in a community, ADHD subtype indicated as follows. In a predominantly inattentive subtype the study reported that, 20% had Minor

Depression/Dysthymia, 21% had oppositional Defiance Disorder (ODD) and 19% had generalized Anxiety Disorder (GPD). In predominantly hyperactive-impulsive subtype Langley, stated that 42% had ODD. In the combined subtype 50.7% had ODD (Langley, 2010). Besides, Parsons (2017) had reported that the world wide pooled prevalence of ADHD for persons age 18 and under was 5.29%, based on a review of 102 studies comprising 171,756 subjects from all world regions. Similarly, Erskine (2010) had found that Global ADHD prevalence for males aged 5-19 is 2.2% and females is 0.7% based on a review of 44 studies covering 21 world regions (Erskine, 2010; Parsons, 2017). Furthermore, Agbenyega et al. (2005) in a study in Saudi Arabia, found out that out of 200 pupils, a total of 13.5% of students were positive regarding ADHD cases. These research had confirmed that there is statistical significant difference of ratio of ADHD prevalence worldwide.

2.3 Teachers' Assessment of Pre-Scholars with ADHD

The way teachers assess pre-scholars with ADHD influences their attitude towards the class or child and the method of teaching. It is very important to note that teachers can not completely avoid such children in the class but adopt interventions to make the child part of the class. Cooper (2016) denote that ADHD is one of the first things that teachers can suspect or perceive when a child's behavior in class, or performance is problematic. Copper said teachers' perceive a child who can't sit still, who blurts out answers in class without raising his hand, who doesn't finish his work, who seems to be daydreaming when the teacher gives instructions to have ADHD. According to NICE (2016), important for teachers to be aware of what ADHD looks like in the classroom, and how it might be confused with other things that could be influencing a child's behaviour. Observing kids carefully is especially important when kids are too young to be able to articulate what they are feeling (Cooper, 2016; NICE, 2016).

Moreover, American Psychiatric Association (2013) agreed with Erskine (2010) that teachers' perceive learners with ADHD in three behaviour patterns: inattention, hyperactivity and impulsivity. Of course, all young children occasionally have trouble paying attention to teachers, staying in their seats, and waiting their turn (Erskine, 2010). The author suggested that kids should only be diagnosed with ADHD if their behavior is much more extreme in these areas than other kids their age. Adding to the Erskine's assertion, the American Psychiatric Association (2013) in their study mentioned that teacher are always the first to diagnose ADHD in children. The association reported that teachers may perceive learners with ADHD in two categories as follows:

a. Inattentive symptoms of ADHD

- Makes careless mistakes in school work, overlooks details
- Is easily distracted or sidetracked
- Has difficulty following instructions
- Doesn't seem to be listening when spoken to directly
- Has trouble organizing tasks and possessions
- Often fails to finish work in school or chores in the classroom
- Often avoids or resists tasks that require sustained mental effort, including doing homework
- Often loses homework assignments, books, jackets, backpacks, sports equipment

b. Hyperactive or impulsive symptoms of ADHD

- Often fidgets or squirms
- Has trouble staying in his seat
- Runs and climbs where it's inappropriate
- Has trouble playing quietly
- Is extremely impatient, can't wait for his turn
- Always seems to be "on the go" or "driven by a motor"
- Talks excessively
- Blurts out answers before a question is completed

- Interrupts or intrudes on others conversations, activities, possessions (American Psychiatric Association, 2013).

Besides, Adewuya & Famuyiwa (2007) stressed that it's important to keep in mind that not every high-energy or impulsive child has ADHD. Children are diagnosed with ADHD only if they demonstrate these symptoms so often that they are causing real difficulty in at least two settings; at school and at home, and the pattern that is causing them serious impairment must persist for at least 6 months. Similarly, Stolzer (2017) posit that when children exhibit behaviours that teachers perceive as ADHD, it's important to keep in mind that they could be caused by other underlying factors. A child who is inattentive could be distracted by chronic anxiety, by a worrisome or painful situation at home, or because he being bullied in the playground. These are all things a child might be embarrassed by and go to some lengths to keep secret. Another thing children often hide is undiagnosed learning disorders. If a child is fidgeting when she's supposed to be reading, it may be that *dyslexia* is causing her great frustration. And if she bolts from her chair, it could be because she is ashamed that she doesn't seem to be able to do what the other kids can do, and intent on covering that fact up (Stolzer, 2017). Besides, Polanczyk et al. (2007) and Atkins et al. (2010) were of the view that most teachers conceive the stereotype of ADHD is boys disrupting class activities by jumping up from their seats, getting in other kids' business, or blurting out answers without raising their hands. However, Polanczyk et al. (2007) said girls get ADHD too, and they tend to be diagnosed much later because their symptoms are more subtle. More of them have the only inattentive symptoms of ADHD, and they get written off as dreamy or ditzy. If they have the hyperactive-impulsive symptoms they are more likely to be seen as pushy, hyper-talkative, or overemotional. Impulsive girls may have trouble being socially appropriate and struggle to make and keep friends (Polanczyk et al., 2007; Atkins et al., 2010).

Likewise, LeRoy and Simpson (1996) claimed most teachers perceive that children diagnosed with ADHD have problems with following instructions and paying attention appropriately to what they need to attend to. They also seem not to listen, are disorganized, have poor handwriting, miss details, have trouble starting tasks or with tasks that require planning or long-term effort, appear to be easily distracted, and/or are forgetful. In addition, Willcutt (2019) agreed with Faraone et al., (2013) that teachers perceive that some children diagnosed with ADHD can be fidgety, verbally impulsive, unable to wait turns, and act on impulse regardless of consequences. Willcutt maintained that not all children diagnosed with ADHD have all of these difficulties, nor do they have them all of the time. Additionally, that author argue that because of the ability of a child diagnosed with ADHD to over focus on something that is of great interest or highly stimulating, many untrained teachers assume that this ability to concentrate negates the possibility of ADHD, especially when they see children able to pay attention while working one-on-one with someone, doing something they enjoy, or sitting and playing an electronic game or watching TV for hours on end (Willcutt, 2019; Faraone et al., 2013).

Lamptey (2017) suggested that schools should illustrate a greater willingness on the part of those in positions of responsibility to adjust schools to the diverse needs of all students. The behaviours associated with ADHD may be first observed or most troublesome in a classroom setting. Maras and Kerdmanyne (2017) found that teachers were involved in making the initial referral for a special education evaluation nearly 60% of the time. This suggests that teachers play an important role in the initial screening for ADHD. In light of this, it is critical that teachers are knowledgeable and objective if they are to play a key role in the diagnosis and education of students with ADHD (Lamptey, 2017; Maras & Kerdmanyne, 2017).

Attention Deficit Hyperactivity Disorder (ADHD) is a significant problem for school– aged children that has been recognized across many cultures. Although acknowledged internationally, ADHD conceptualizations vary greatly based upon the implicit sociocultural perceptions of human development, learning environments, and typical educational and behavioral management practices (Fraser & Moltzen, 2000; Vance & Luk, 2000). The United States and New Zealand are two nations where ADHD-related behaviors are considered socially significant problems for school–aged children; however, disagreement exists between the two settings regarding how the disorder should be identified and treated. Using these differences as grounds for cross–cultural comparison, this research examines teachers' pre–treatment perceptions of classroom interventions for ADHD and explores how sociocultural factors influence these preferences (Fraser & Moltzen, 2000).

Children with ADHD often require considerable assistance from mental health resources and providers of special learning and behavior–focused services. Once clinical services are provided for the child, family caregivers and teachers are challenged to implement and maintain interventions within the child's everyday environments (DuPaul & Stoner, 2018). This is especially challenging in the school setting where consultants may not be afforded the opportunity to collaborate with the teachers charged with the task of implementing the recommended interventions (Power, DuPaul, Shapiro & Kazak, 2003). Consultants generally strive to provide services with demonstrated efficacy (Foster & Mash, 1999).

However, their recommendations are not always viewed by teachers to be "socially valid" for use in the classroom (Power et al., 2003; Wolf, 1978). Additional knowledge of teachers' pretreatment preferences is needed to guide effective consultation to benefit children presenting clinically significant hyperactive,

impulsive, and inattentive behaviors. Specifically, teacher perceptions of intervention acceptability, effectiveness, and timeliness of effect are important considerations for successfully extending psychosocial interventions to school settings. Thus, the purpose for investigating these teacher perceptions is to inform intervention practices and promote more seamless continuity of services across child settings (Wolf, 1978).

Historically there have been differences regarding how ADHD has been conceptualized in the U.S. and New Zealand that compel a cross–cultural comparison. For instance, researchers from the Dunedin Multidisciplinary Health Research Unit (DMHRU), which is a 32–year epidemiological study of child development in New Zealand, argued that ADHD behaviors result from academic failure or learning difficulties (Stanton, Feehan, McGee, & Silva, 1990). In contrast, researchers from the U.S. most commonly identify ADHD as a specific clinical condition that frequently co–occurs with learning difficulties (Barkley, 1998; American Psychiatric Association, 2013). The New Zealand literature also suggests that psychosocial intervention is most appropriately delivered through teacher strategies to improve learning skills, relegating behavior management to a secondary emphasis (Stanton et al., 1990).

In a comprehensive review of psychosocial treatments for ADHD, U.S. researchers noted that classroom-based behavioral strategies and behavioral parent training received the greatest empirical support (Pelham, Wheeler, & Chronis, 1998). Despite these differing perspectives on classroom intervention, both cultures have clearly recognized the efficacy of behavioral interventions and psycho stimulant medication for ADHD. While some of the theoretical differences have been reconciled, differences in the school system continue to exist especially in regard to the use of diagnoses to guide intervention (Vance & Luk, 2000). There are also several

differences between the established educational systems within the two nations. A categorical model of service delivery (historically) provides the conceptual framework for addressing educational issues in the U.S., while an ecological model represents the New Zealand.

For a comparison between U.S. and N.Z. educational systems (categorical model and ecological model, respectively), both systems also frequently employ the ecological practice of pre–referral student support services. This is carried out through the use of Student Support Teams (SST) in the U.S. and Behaviour and Education Support Teams (BEST) in N.Z. (Logan, Hansen, Nieminen, & Wright, 2001). While teachers and schools across the two nations may demonstrate some of the same practices, cross– cultural educational differences are observable in government policies and the structural supports that consequently affect teacher training and practices. These educational differences may be particularly germane when considering the implications for ADHD, since opposing views of ADHD already exist across these two nations.

Structural features of the U.S. educational system provide observable alliances with a categorical model. These policy-driven features can be observed in both the funding and allocation of special education services in the U.S. In short, schools in the U.S. are funded for special education services based upon the annual number of IEPs implemented. Furthermore, IEPs are mandated in order to allocate special education services for school children. In qualifying for an IEP, a child must have a categorical determination of documented learning, emotional, or health impairment to receive services (IDEA, 1997). Additionally, student placement considerations are often considered a common part of the IEP process (IDEA, 1997; Logan et al., 2001).

While many U.S. classrooms promote non-categorical practices, these embedded structures support the overarching categorical model.

Unlike the U.S. educational policies, N.Z. educational policies (i.e., Special Education, 2000) provide no documented definition for student disability and disavow the use of categorical labels in schools to promote "needs–based," "non–categorical services" (Fraser & Moltzen, 2000; Mitchell, 2000). Schools in N.Z. receive special education funds through Special Education Grants (SEGs), which are determined at the wholeschool level by "decile rank," a 10–point qualification derived using a formula based on the school's enrollment numbers and the socioeconomic indicators presented from the immediate community (Mitchell, 2000). Structural supports for ecological practices are also built into the N.Z. system with the creation of Resource Teachers for Learning and Behaviour (RTLBs). These governments funded RTLBs provide itinerant support to N.Z. schools by identifying and responding to emerging classroom concerns.

The resource teachers' roles emphasize teacher collaboration and school-level intervention to develop alternative methods of curriculum delivery and classroom management that support inclusive practices (Mitchell, 2000). How ADHD-related problems are identified in the classroom is of great importance, because the identification or view of the problem may directly influence the perceived relevance of treatments chosen. Based upon these educational system differences, it is especially relevant to consider how the sociocultural values, resources, and practices of the teachers who carry out interventions affect school consultation processes (Mash & Wolfe, 2012). Because teachers are charged with the task of implementing classroom strategies for children with ADHD, there is a need to determine which interventions teachers find acceptable, effective, and timely. Both student and

intervention characteristics have been shown to affect teachers' differential preferences for various classroom strategies (Foster & Mash, 1999).

Prior studies have demonstrated that teachers' preferences for specific interventions changed when the presenting symptoms changed in type or severity. For instance, in situations where the presenting symptoms were more severe, teachers were more accepting of medication as a viable treatment. Teachers have also been more likely to accept medication for use with boys compared to girls (Foster & Mash, 1999; Power, Hess, & Bennett, 1995).

2.4 Effects of ADHD on Teaching and Learning

Various studies over the years had pointed out ways pupils with ADHD affect the work of teaching in the classroom. Fatmi (2008) claimed that it is possible to find a child with ADHD in every single Ghanaian classroom and their presence cannot be avoided. Students who exhibit ADHD's hallmark symptoms of inattention, hyperactivity, and impulsivity can be frustrating. The brainpower is there, but they just can't seem to focus on the material or instruction. With their behaviours, they take time away from the teaching period by disturbing the whole class (Lamptey, 2017; Twi-Yeboah, 2019). In a recent study, Lamptey (2017) outline some ways children with ADHD disturb teaching and learning. They;

- demand attention by talking out of turn or moving around the room.
- have trouble following instructions, especially when they're presented in a list, and with operations that require ordered steps, such as long division or solving equations.
- often forget to write down homework assignments, do them, or bring completed work to school.

- often lack fine motor control, which makes note-taking difficult and handwriting a trial to read.
- have problems with long-term projects where there is no direct supervision.
- do not pull their weight during group work and may even keep a group from accomplishing its task.

Barkley (2016) contend that the school setting requires children to sit still, listen quietly, pay attention, follow instructions, concentrate, etc. These are the very things kids with attention deficit hyperactivity disorder (ADHD) have a hard time doing not because they aren't willing, but because their brains won't let them. That doesn't make teaching them any easier. It was observed in NICE's (2016) study that children with ADHD often pay the price for their problems in low grades, scolding and punishment, teasing from their peers and low self-esteem. This makes the teacher feels guilty because he/she can't reach the child with ADHD and wind up taking complaints from parents who feel their kids are being neglected in the classroom.

Again, Polanczyk et al, (2007) were certain that pre-schoolers with ADHD affect instructional process by fidgeting and disturbing other children in the class, and talking too much without waiting for their turn. Kids with ADHD might also have learning disabilities that cause them to have problems in school. The authors noted that these children may ask unnecessary questions to interrupt the flow on teaching and learning. Similarly, Cooper (2016) identified some common ways pre-schoolers with ADHD can interfere with teaching and learning in the classroom.

a. Children with ADHD have hard time regulating the movements of their bodies, it can be difficult to sit still for extended periods of time. To combat this, children may create excuses to leave the classroom in the middle of lesson destructing the

whole process. As a result, they miss out on important instructions and lessons that may make it easier to complete assignments later.

b. In a room full of other children, the number of external stimuli increases. It is rare to find a completely quiet moment. Children with ADHD are easily distracted and the constant squeaking of a chair, tapping of fingers, or voices in the hallway can make it hard for the child to hold their undivided attention to the task at hand.

c. For children with ADHD, it usually isn't the failure to learn that creates an issue, but rather the gap in the ability to carry that understanding into their school work which they do to mislead other children in the class. This may result in failed tests, trouble completing homework or writing assignments and an inability to turn assignments in on time.

d. Hyperactive-impulsive children tend to blurt their thoughts out when others are responding to questions. This can create an issue with other classmates, especially during group work and may interrupt the teacher during important instructional time affecting not just the child's ability to hear instructions, but the classes as well.

2.5 Strategies for Teaching Learners with ADHD

There are strategies that can be employed to help students with ADHD overcome learning challenges, stay focused without disrupting others, and succeed in the classroom. Various studies have identified these strategies, for instance, Montague and Kos, Richdale and Jackson (2004) affirm that between 85% and 90% of children with ADHD will be served in the general education classrooms for various amounts of time throughout the school day and can be successful with the right strategies (Kos et al., 2004). Taylor (2018) denote that although ADHD students may have a right to

receive services under the Individuals with Disabilities Education Act (IDEA) if they meet certain criteria, most students with ADHD are served in the regular classrooms. The author reported that teachers are the primary agent in implementing interventions because they are in the best position to monitor the settings in which the behaviours occur (Taylor, 2018). Again, Barkley (2016) stressed that there are many different interventions that can be used to deal with students who have ADHD. Behaviour management, appropriate educational placement, and stimulant medications are often used to improve academic performance and behaviour in most children. Twi-Yeboah (2019) said behaviour management techniques can help the ADHD student to be productive in the classroom, and accepted in schools, at home, and in social situations.

Various reinforcement and response-cost programs can be implemented with ADHD students to help them positively regain control of their behaviours in the classroom. DuPaul and Stoner (2018) agreed with Langley (2010) on the following interventions or strategies that could be adopted for teaching pre-schoolers with ADHD.

a. Academic Interventions

Class-wide peer tutoring (CWPT). CWPT is a method involving two students, one being the tutor and the other the tutee. The attention span of students with ADHD tends to expand, as the instructional characteristics of peer tutoring (e.g., working one-on-one with another individual or frequent, immediate feedback about performance quality) exist in several models of peer tutoring (DuPaul & Weyandt, 2016). “CWPT is one of the most widely researched and implemented peer tutoring models. CWPT has been found to enhance the mathematics, reading, and spelling skills of students of all achievement levels”. DuPaul and Weyandt also described a study that evaluated the behaviour and academic motivation of 19 children with

ADHD and the effects that CWPT had on them. “Depending on the academic area that each teacher identified as weakest for the student with ADHD”, CWPT was used regarding spelling, reading or mathematics. Results showed a significant increase in active engagement, 21.6% to 82.3%, when CWPT was used with students with ADHD (DuPaul & Weyandt, 2016). Tutoring is naturally individualized and that is what makes it such a great complement to classroom teaching and for some students, an absolutely necessary supplement to classroom learning (Chin, Rabow, & Estrada, 2011). The authors denote that tutors have more flexibility than teachers in teaching what students really need to learn at a particular time, readjusting schoolwork according to individual students’ needs, interests, and abilities. In a very short time both tutors and their students can have a personal relationship as a result of their shared experience of learning from each other. The personalized nature of tutoring potentially can have immediate significant impacts (Chin et al., 2011).

In some research, results indicated that “class peer tutoring increased active engaged time for students with ADHD and reduced their disruptive off-task behaviour,” and increased their academic performance as well. Class-wide peer tutoring interventions can significantly increase the attention span of a student, even among children who have serious problems staying alert and focused (Noi-Okwei & Agu, 2016).

Instructional modification. Instructional modification is a proactive method used to target a child’s academic needs, making the changes necessary to an actual assignment. For example, a teacher might divide an assignment into thirds, allotting frequent due dates for the assignments at hand (Lamptey, 2017). Altering the instructional materials presented and the tasks being given is another example of instructional modification. According to recent research results, “children with ADHD are more likely to attend to and complete tasks that include engaging stimuli

within the task" instead of tasks that include extra things for them to do. Disruptive behaviour has been proven to decrease, whereas academic performance in writing and reading increased along with academic performance while using instructional modifications (Rivard et al., 2017).

Computer-assisted instruction (CAI). According to DuPaul and Weyandt (2016), CAI allows students with ADHD to focus on academics with the aid of computerized or software generated instructional features. "CAI software typically is designed to address specific instructional objectives, provides highlighting of essential material (e.g., large print, color), utilizes multiple sensory modalities, divides content material into smaller bits of information, and provides immediate feedback about response accuracy" (p. 168). Additionally, it might limit features which could distract, such as animations and sound effects, but these instructional features could benefit students with behavioural and attention difficulties (DuPaul & Weyandt, 2016). According to several studies, using CAI in mathematics and reading led to massive improvements regarding academic performance and attention span for students with ADHD relative to conditions involving written seatwork. However, results of single-subject research design studies have proven that CAI can be quite efficient. Meanwhile, DuPaul et al. (2011) indicated in their study that CAI can improve fluency in oral reading and performance in mathematics on a curriculum-based measurement for small samples of children with ADHD. Large samples involving a design for this type of group research have not been made, to date (DuPaul et al., 2011).

b. Behaviour Interventions

Contingency management (CM). CM can be described as one of the most common behavioral interventions for ADHD. It is defined as applying consequences contingent to specific behaviours. By providing positive reinforcement, this method

is used to increase frequency of certain behaviours (Lamptey, 2017). Self-evaluation and self-management are suggested as viable alternatives to the traditional approach for decreasing disruptive behaviours for elementary school children with ADHD (Miranda, Jarque, & Tárraga, 2016).

Positive results have been recorded for the usage of CM, as children exhibiting ADHD symptoms have steadily increased their focus, task and academic performances in school. Additionally, CM has decreased a majority of the negative symptoms associated with ADHD, such as disruptive behaviour, hyperactivity and off-task performance (Sherman, Rasmussen, & Baydala, 2018).

Self-management. Also known as self-regulation, self-management interventions encourage students with ADHD to take the time to assess their behaviour and achievement levels following successful applications of teacher-mediated behavioral approaches (DuPaul et al., 2011). Self-management requires a person to evaluate some aspect of his or her own behaviour against some sort of criteria, which makes it similar to self-monitoring, as self-management requires students to self-assess their behavior at certain intervals (Agbenyega et al., 2005). Several studies noted how effective combining self-monitoring and self-reinforcement can be, as it improves a variety of behaviorus of the student at hand (DuPaul & Weyandt, 2016).

Self-management by students in special educational settings has been proven to be quite useful, according to the demonstration of several studies. Self-management of school children with ADHD in a regular class setting has also expressed the likelihood of behaviour change (Cooper, 2016). In a study by Mashburn, and Henry (2004), monitoring of attention and performances was used to see if there was a differentiation regarding the effects on the focus and study management regarding the spelling ability of six primary students with ADHD. According to Mashburn and

Henry (2004) both performances achieved positive results regarding the focus and spelling study motivation of the students. Even though the improvement of focus was comparable for both interventions, self-monitoring of attention showed an increase of spelling study behaviour in two-thirds of the students (Mashburn & Henry, 2004).

Choice-making interventions. Choice-making interventions allow students to choose among pre-presented options. No matter which option they choose, the outcomes will be quite similar (DuPaul et al., 2011). In 2010, Perold et al., found a decrease in misconduct behaviour in a study that focused on a seven-year-old child diagnosed with ADHD who was using the choice-making method. Another study noticed that two boys, each aged 11, with ADHD symptoms, though not formally diagnosed with ADHD, improved their task engagement skills (Perold et al., 2010).

Peer monitoring. Peer monitoring allows students to monitor each other's behaviours while using positive reinforcement. Similar to self-management, with this intervention the children themselves, not the teachers, are the key to change (Agbenyega, Deppeler, Harvey, 2005). This typically involves drawing the line between appropriate and inappropriate behaviour and having students distinguish between the two, and providing reinforcement for students who display appropriate behaviour (Perold et al., 2010). Peer monitoring has proven to be just as effective, sometimes even more helpful, than procedures administered by teachers, and it is also cost effective. Peer monitoring also has the advantage of not using precious class time dealing with disruptive behaviour (Stolzer, 2017).

Moreover, on the strategies that could be adopted for teaching pre-schoolers with ADHD, Chin, Rabow and Estrada (2011) and Fatmi (2008) said children with this disorder experience a variety of difficulties in school settings, including difficulties with academic achievement, and peer relationships. One way to address the problem

of academic under achievement is to provide effective intervention. Many young children with ADHD enter kindergarten with below average skills, so academic intervention strategies should be addressed as early as possible (DuPaul & Weyandt, 2016). Numerous studies have demonstrated that children with ADHD have poorer grades, higher rates of school failure and repeated grades, and greater rates of academic underachievement compared to same-aged and even IQ-matched peers (Mirandae et al., 2016).

Besides, Rivard et al. (2017) found that children with ADHD (aged 4) were likely to have educational problems; these individuals were more likely to receive special education. The authors suggested child-level classroom accommodations for children with ADHD such as limiting task duration, introducing breaks and dividing longer tasks up into smaller parts. Rivard et al. also recommended increasing the amount of direct instruction time a child receives (versus independent seat-work) and revising task directions to be short, specific, and direct.

Additionally, designing the classroom to accommodate students with ADHD, Sherman et al. (2018) alleged that as a teacher, you can make changes in the classroom to help minimize the distractions and disruptions of ADHD. The authors also advised teachers to individualized teaching and learning to meet the individual needs of the students. The authors proposed that following strategies.

a. Seating

- Seat the student with ADHD away from windows and away from the door.
- Put the student with ADHD right in front of your desk unless that would be a distraction for the student.
- Seats in rows, with focus on the teacher, usually work better than having students seated around tables or facing one another in other arrangements.

- Create a quiet area free of distractions for test-taking and quiet study.

b. **Information delivery**

- Give instructions one at a time and repeat as necessary.
- If possible, work on the most difficult material early in the day.
- Use visuals: charts, pictures, color coding.
- Create outlines for note-taking that organize the information as you deliver it.

c. Student work

- Create worksheets and tests with fewer items, give frequent short quizzes rather than long tests, and reduce the number of timed tests.
- Test students with ADHD in the way they do best, such as orally or filling in blanks.
- Divide long-term projects into segments and assign a completion goal for each segment.
- Accept late work and give partial credit for partial work.

d. Organization

- Have the student keep a master binder with a separate section for each subject, and make sure everything that goes into the notebook is put in the correct section. Color-code materials for each subject.
- Provide a three-pocket notebook insert for homework assignments, completed homework, and "mail" to parents (permission slips, PTA flyers).
- Make sure the student has a system for writing down assignments and important dates and uses it.
- Allow time for the student to organize materials and assignments for home. Post steps for getting ready to go home (Sherman et al., 2018)

Parsons (2017) and Agbu (2013) denote that there are several strategies in handling children with ADHD in the classroom. Because children with ADHD have a hard time regulating the movements of their bodies, it can be difficult to sit still for extended periods of time, parents and teachers can help the child learn to identify when they have the urge to move. If moving is not an option, providing them with a way to direct that movement while staying seated will eliminate the need to leave the classroom. The best way to do this is by providing a sensory activity like standing desks, fidget spinners or objects and wiggle seats. Agbu (2013) posit that children with ADHD are easily distracted and the constant squeaking of a chair, tapping of fingers, or voices in the hallway can make it hard for the child to hold their undivided attention to the task at hand, the authors suggest that teachers can help is by ensuring the child seats away from doors and distractions.

Parsons (2017) said success in school is determined by grades, so failed tests and assignments can take a hit on the child's self-esteem. Teachers can combat this frustration by using positive reinforcements and help build their self-awareness. Teaching the child to take deep breaths or think positive thoughts during moments of high stress can also help minimize the ways ADHD affects learning. Lastly, Lamptey (2017) maintained that the best way to handle the way ADHD affects teaching process is by establishing a plan that rewards good behavior. It is also advantageous to talk through behaviour with the child so that they can learn to understand what is acceptable and identify their moods. In order for a learner with ADHD to achieve academic success, the educator may need to implement an intervention. There are numerous interventions that are available to the educator in order for a learner with ADHD to be able to achieve in the classroom (Faraone et al., 2013; Mitchell, 2000).

Two modes of intervening available include behaviour modification and classroom management.

a. Behaviour Modification

According to Fabiano and Pelham (2003) educators in the USA use behavioural modification strategies, to some extent, to reduce misbehaviour in the classroom. However, these interventions may have varying degrees of success in terms of clinical improvement, due to the differing intensity of the behavioural interventions implemented (Fabiano & Pelham, 2003). Fabiano and Pelham (2003) also noted in their study that although educators may be able to implement behavioural interventions in the classroom, they seem to lack the ability to effectively modify behavioural interventions to individualise them for learners with ADHD.

Minor modifications to an existing behavioural intervention can result in meaningful behaviour changes that can assist the learner with ADHD. Most classroom strategies designed for learners with ADHD are behaviouristic in nature (Faraone et al., 2013). However, ADHD also has a neurological component, as the learner's attention, planning and working memory skills are affected. Educators could therefore include strategies in their lesson plans that can enhance behaviour while also supporting memory.

Learners with ADHD appear to exhibit fewer behavioural problems in new or unfamiliar settings suggesting that if educational material or educational content is colourful and stimulating and new to them it could hold their interest and attention.

Thus, educators could avoid learning material that may be regarded as too boring. Learners with ADHD need to be kept stimulated and have their attention held by colours and content that is deemed interesting or thought-provoking. However, educators would not need to make activities colourful to the extent that it is visually distracting for learners with ADHD (Barkley, 2016).

On the same note, learners with ADHD tend to enjoy sensory exploration of their environment which can be distracting to others in the classroom (Chin et al., 2011). It seems that these studies suggest that classroom activities can be planned, by the educator, to be colourful and fun in order to engage the learner (Atkins et al., 2010). However, caution is also needed as they should be colourful but not visually distracting to the learner with ADHD. The complexity of designing such learning environments can however be intricate and difficult to implement. To embrace inclusion, the school or educators could endeavour to learn how curriculum and instruction, leadership practices and school structure could change to meet the needs of students of all abilities (Maras & Kerdmanyne, 2007).

Agbenyega et al. (2005) indicate that although schools have an obligation to serve learners with ADHD, different school systems have access to different resources, which may affect service delivery. One can perhaps extend this to educators in the classroom; that different classroom resources may influence how the educator assists or accommodates the learner with ADHD. Educators tend to be the first to recommend that a learner be evaluated for ADHD (Louw, 2019). Health professionals (psychologists, speech and language clinicians and school nurses) agree that educators are often responsible for commencing the referral process of learners they suspect may have ADHD. Although, Cooper (2016) found that educators experiences with learners with ADHD and their knowledge of ADHD were not related.

b. Classroom Management

Effective classroom management is required before an intervention aimed at learners with ADHD can be implemented by an educator. According to Barkley (2016), some features of classroom management could include: (1) an understanding of current research and theory in classroom management and its relationship to a learner's psychological and learning needs; (2) the ability to create a positive relationship

between the learner and the educator and (3) instructional methods that respond to the academic needs of each learner and to the whole group as a class. Thus, effective classroom management could incorporate understanding a learner's psychological needs, which could include understanding the learner with ADHD holistically and the possible co-morbidities.

Therefore, developing a meaningful relationship between the learner and the educator would take account of the psychological and/or emotional needs of the learner with ADHD. The success of classroom management relates to the educator's ability to understand the learner's psychological and learning needs and being able to respond to this with creative instructional methods that appeal to all learners. According to Agbu (2013), the importance of an educator could be to consider his/her own strengths and to focus on the strengths of the learner.

2.6 Summary of literature review

The review began with the theoretical framework which pegs the study in relation to psychology of human development (Bronfenbrenner, 1989 cited in Stolzer, 2017). The review continued with the prevalence of ADHD symptoms as rated by teachers. Although figures vary according to where and when studies are carried out and the diagnostic criteria used, it appears that ADHD is present throughout the world. Internationally, prevalence rates are conservatively estimated between 3% and 7% among children from a wide variety of cultures and geographical regions (Cooper, 2016; ADHD (Agbu, 2013).

Moreover, how teachers' perceive pre-schoolers with ADHD was vividly discussed in the review. It is important to note that the way teachers perceive pre-schoolers with ADHD influences their attitude the method of teaching. Cooper (2016) denote that ADHD is one of the first things that teachers can suspect or perceive when a child's

behaviour in class, or performance is problematic. Furthermore, the review of literature was extended to how pre-schoolers with ADHD affect the work of teaching. Again, various studies over the years had pointed out ways pupils with ADHD affect the work of teaching in the classroom. Students who exhibit ADHD's hallmark symptoms of inattention, hyperactivity, and impulsivity can be frustrating. With their behaviors, they take time away from the teaching period by disturbing the whole class (Lamptey, 2017; Twi-Yeboah, 2019).

The review ended with the strategies that could be adopted for teaching learners with ADHD. Various studies (Kos et al., 2004); Taylor, 2018; Barkley, 2016; DuPaul & Stoner, 2018; Langley, 2010; Lamptey, 2017; Rivard et al., 2017; DuPaul & Weyandt, 2016), stressed that there are many different interventions that are used to deal with students who have ADHD. Behaviour management, appropriate educational placement, and stimulant medications are often used to improve academic performance and behaviour in most children. Twi-Yeboah (2019) said behavior management techniques can help the ADHD student to be productive in the classroom, and accepted in schools, at home, and in social situations.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter provides information on the philosophical assumption of the study, details of the study design, methods used to conduct the research. In particular, it describes the research design, the study population, sampling procedure and the sample size It further deals with information on the development of the research instrument. Pilot study, data collection procedure, and data analysis.

3.1 Research Paradigm

The philosophical assumption underpinning the study is the pragmatic paradigm. Pragmatism as a research paradigm finds its philosophical foundation in the historical contributions of the philosophy of pragmatism (Maxcy. 2003). As a research paradigm, pragmatism is based on the proposition that researchers should use the philosophical and or methodological approach that work best for the particular research problem that is being investigated (Tashakkori & Teddlic, 2010). It is often associated with mixed-methods or multiple-methods (Bicsta. 2010: Creswell & Clark, 2011), where the focus is on the consequences of research and on the research questions rather than on the methods. It employs both formal and informal rhetoric (Creswell & Clark. 2011).

A major underpinning of pragmatist epistemology is that knowledge is always based on experience. One's perceptions of the world are influenced by his or her social experiences; each person's knowledge is unique as it is created by her/his unique experiences. Nevertheless, much of this knowledge is socially shared as it is created from socially shared experiences. Which is the objective of this study Therefore, all

knowledge are social knowledge (Morgan,2014). Pragmatist epistemology does not view knowledge as reality (Feilzer,2010), Rather, it is constructed with a purpose to manage ones' experiences and to take part in the world (Goldkuhl,2012. Pragmatist believes in what works best in any given situation.

3.2 Research Design

With this study laying priority on quantitative components which allow for more emphasis on the quantitative data over the qualitative data, influenced the researcher's choice of research design to be the sequential explanatory research design. The sequential explanatory design was employed because it permitted the researcher to first gather quantitative data from the pre-school teachers, analysed the results and then based on the results from the analysis, the researcher gathered qualitative data. Amalki (2016) affirms this by stating that "the quantitative data informs the qualitative data selection process which enables the researcher to specifically pinpoint the data that is relevant to specific research questions" (p.293). Therefore, the researcher chose this design to explain into details the results generated. The limitation with the usage of the sequential explanatory design is that unequal sample size were chosen for each phase of the data collection process and this might not present a true clarification from the view point of the entire population.

3.3 Population of the Study

The population of the study was pre-school teachers and learners in the Suhum north Municipality. The teachers were 50 and six (6) learners in the study area. The total population size was 56 early childhood teachers and learners in the Municipality.

3.4 Sample Size and Sampling Procedures

Census selection was employed to select 50 teachers. Census is the enumeration of the entire population (Bryman,201***2)***. This allows for the study of every participant or selected through the maximal variation sampling technique. The maximal variation sampling technique assisted selecting participants from extreme angles in older to access multiple perspectives. This sampling technique led to the selection of Early childhood teachers in the Municipality based on their academic qualification in the Municipality. This affirms the claim by Kusi, (2012) that maximal variation sampling technique allows the researcher to categorise participants according to their different academic, professional qualification and gender, for data collection. Six (6) pupils were selected through purposive sampling technique by observation

3.5 Instrumentation

Two instruments, interview guide and a questionnaire were used for data collection. Interviews were useful for uncovering the story behind a participant's experiences and pursuing in-depth information around a topic. The strength of interviews was freely use to probe to obtain response clarity or additional information.

a. Questionnaire

The researcher using the research questions as the basis designed the questionnaire for the survey. The questionnaires were used to elicit information from respondents. The questionnaire consisted of items related to the research questions. Closed ended questions were used in the questionnaire to allow the study gather vital information. Again, Likert scale type questions were used where 1 = Strongly Disagree, 2 = Disagree, 3 = Uncertain, 4 = Agree, and 5 = Strongly Agree. Every section of the questionnaire began with specific instructions as to the intent of the items as well as how to respond to items in that section. The choice of the instrument was because the

nature of data needed for the study do not involve or require time series over several monitoring rounds of data. It involves collection of information from a sample that had been drawn from a predetermined population at one point in time (Fraenkel & Wallen, 2000). The questionnaire is considered to be appropriate in view of the level of intellectual capacity of the respondents who can provide more answers. The questionnaire affords not only wider geographical coverage than any other technique, but also reaches individuals who are normally difficult to contact. A questionnaire is more adequate in situations in which the respondents have the opportunity to check his or her information. There are some weaknesses associated with the use of a questionnaire. The format of questionnaire design makes it difficult for the researcher to examine complex issues and opinions. Even where open-ended questions are used, the depth of answers that the respondent can provide tend to be more-limited than with almost any other method of research. This makes it difficult for a researcher to gather information that is rich in depth and detail. Again, the researcher hope the questions asked mean the same to all the respondents as they do to the researcher

b. Interview guide

The interview items were built on the major variables that were the key themes in the research questions. The questions were also central in triangulating the responses from the questionnaire and in maintaining the focus of the research in order to avoid concentrating on less important points. Though the interview guide was semi-structured, it was interactive and the new issues and ideas that emerged in the course of the interview were further investigated. A tape recorder and notebook were used to accurately record the responses. This saved much time and helped the researcher to devote full attention to listening to the respondents. The tape recorder helped the researcher to avoid bias and distortion of the responses. After each interview session,

the tape was played over and over to make the researcher familiar with the issues for easy transcription of the data and arrange it into common themes. These instruments offered teachers and parents the opportunity to express their views and feelings on issues in detail. It also allowed the researcher to seek clarifications on issues during the interview process. The interviews were conducted within a period of 3 weeks and this was subjected to changes to allow for adjustments and reschedule of interview appointment.

a. Face validity

In order to ascertain face validity, the researcher presented the instruments constructed to his colleagues Master of Education students for constructive criticisms.

b. Content validity

The researcher prepared the instruments in close consultation with his supervisor, senior lecturers and ensured that the items in the questionnaire and interview guide cover all the areas under investigation. The researcher's supervisor and lecturers, as experts, helped to assess the validity of instruments.

3.6 Reliability of instruments

The purpose of reliability is to assess the instrument's ability to measure the same way in each administration to the same sample. To ascertain the reliability of the research instrument, a pre-test, was conducted in two schools in Suhum, the researcher established the reliability of the instruments. The results obtained were correlated using the Pearson's Product Moment Correlation Coefficient formulae. The more the correlation coefficient was closer to 1.00 the more reliable the

instrument was. A score of 0.84 was obtained indicating that the instrument was reliable.

3.7 Trustworthiness

The trustworthiness of this study was enhanced by including participants differing viewpoints, giving more credibility to the findings. The trustworthiness was again enhanced by the exact description of the procedure, by motivated participants and by the important quotations from the interviews (Snape & Spencer, 2003). Yakubu (2015) stated that the concept of trustworthiness is very important because it is necessary to estimate the accuracy of qualitative study.

Also, by way of ensuring credibility the researcher followed this procedure:

1. The interviews were conducted using language that was understood by both the researcher and participants to avoid misunderstanding between the researcher and the interviewees.
2. The interview took place at a quiet and serene environment void of distortions.
3. The supervisor for this study's regular inspections by giving constructive criticisms helped the researcher to check for flaws and problems in the study.
4. Participation of the participants in the interviews were strictly voluntary and their privacy and confidentiality were strongly maintained at all time.

3.8 Data Collection Procedures

A letter of introduction from the Head of Department of Early childhood Education of the University Education, Winneba granted me the permission to first collect data for the study. The letter assisted to introduce myself, established rapport with the respondents and sought permission from all the respondents before the due date to administer the questionnaire and interview them. I addressed all requests for

clarification on the questionnaire. The respondents were comfortable in responding to the questionnaire because I assured them of strict confidentiality. The questionnaires were administered to the teachers using the drop and pick technique of visiting the sampled schools to distribute the questionnaires then come to pick them from the head teacher on the next day.

As part of the data collection an agreed date and time was scheduled with the six (6) learners for the interview. An interview guide was designed to guide the interview process between the researcher and the learners. In order to ensure the validity of the interview schedule they were designed to reflect on the research objectives and questions. Like the questionnaire, the interview guide was divided into sectors covering the critical areas of the research questions of which answers could not be obtained with the use of the questionnaire. The interview guide provided the opportunity for the researcher to directly interact with the respondents and as such, obtained direct answers to the questions. This actually helped provide satisfactory answers to the research questions.

The face-to face interview was presented as enabling a "special insight" into subjectivity, voice and lived experience (Kvale, 2009). To ensure that ethical issues were not violated, before each interview, I briefly talked about the purpose of the interview and gave an overview of the research being conducted. I also sought permission from interviewees to record the interview and to take notes and assured them of anonymity and the fact that the recordings and the notes will be destroyed as soon as the research is over. At the beginning and throughout the interview, I stressed the importance of confidentiality to the participants and that made them feel

at ease to talk to me in confidence. It took five (5) working days for interviewing and administering questionnaires.

3.9 Data Analysis Procedures

Quantitative data: the quantitative data from the teachers was analysed using means and standard deviations for the research question 1, 2, 3, and 4.

Qualitative data: The qualitative data from the pupils were analyzed using content analysis and quotes from the responses

The content analysis helped the researcher to focus on the examination of meaning occurring within a particular context. It also helped the researcher to describe the narrative of the qualitative responses generated through the interview

3.10 Ethical Considerations

A letter was obtained from the Head of Department of Earlychilhood Education indicating the purpose of the study and its significance to the teachers and head teachers in the selected public basic schools, and the Director of Education in the Suhum Municipality. In addition, a covering letter was obtained from the Suhum Municipal Director of Education to introduce the researcher to the head teachers of the various schools. The head teachers also introduced the researcher to the learners. Furthermore, each questionnaire had an opening introductory letter requesting for the respondent's cooperation in providing the required information for the study. The respondents were further assured that the information provided shall be used for academic purposes only (confidentiality).

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.0 Introduction

This chapter of the study comprised the results gathered from the administration of the research instrument. It also presented the findings and discussions with supporting literature. The presentation of results and discussions focused mainly on the research objectives

4.1 Demographic Information of Respondents

Table 4.1: Age Range of Participants

Age Range	Frequency	Percentage
20-29	40	71.0
30-39	10	19.0
4-5	6	10.0
Total	**56**	**100.0**

Source: Field Survey (2021)

Table 4.1 shows the age of the respondents, and the data gathered from the questionnaires is analyzed. It can be seen that those who fell within the age group of 20-29 were 40(80.0%), and also those who fell between the ages of 30-39 were only 10(20%), which shows that majority of the kindergarten teachers are active and have more to do in the teaching field.

Table 4.2: Professional Qualification of participants

Variables	Frequency	Percentage
Diploma	19	38.0
Degree	27	54.0
M.Ed. / MA	2	4.0
MPhil	2	4.0
Total	**56**	**100**

Source: Field Survey (2021)

Table 4.2 show the qualification of the respondents. As the data is analysed in accordance, it can be observed that, 19(38.0%) of the respondents were diploma holders, 27 (54.0%) of the respondents were degree holders. Again, 2(4%) of the respondents were M.Ed. and MPhil holders respectfully, from the analysis it shows that most of the respondents were having degree

Table 4.3: Number of years in service by participants

Variables	Frequency	Percentage
1-5	23	46.0
6-10	22	44.0
11-15	5	20.0
Total	**50**	**100.0**

Source: Field Survey (2021)

Table, 4.3 shows the number of years the respondents have taught. It can be observed that, 23(46.0%) of the respondents have taught for 1-5years, 22 (44.0%) of the respondents have taught for 6-10years. Again, only 5(20.0%) of the respondents have taught for 11-15 years, from the analysis it shows that most of the

respondents have only taught for 1-5 years and this shows that they are more of new to the system and they lack professional skills.

1. Research question 1: *What is the prevalence of ADHD symptoms as rated by early childhood teachers in the Suhum Municipality?*

Research question one sought to identify the prevalence of ADHD symptoms as rated by early childhood teachers in the Suhum Municipality. The data analysis is presented in Table 4.4.

Table 4.4: Mean analysis of the prevalence of ADHD symptoms

Variables	MEAN	Std. Deviation
1. Have you received any formal training in special education	3.60	1.9
2. Are there Students with ADHD in your class	3.48	1.53
3. how many pupils in your class are hyperactive	3.04	1.47
4. can you identify pupils with ADHD	3.84	1.17
5. Are you able to manage pupils with in ADHD your class	2.36	1.36
6. How difficult it is to manage pupils with ADHD in your class	4.00	1.29
Means of means	**3.39**	

Source: Field Survey (2021)

Data presented in Table 4.4 indicates that with a mean score of 3.60 and standard deviation of 1.9 of the respondents affirmed that the have you received any formal training in special education, with regard to the statement Are their Students with ADHD in your class, again teachers were overwhelming their agreement to it. the responses yielded a mean 3.48 and a standard deviation of 1.53. The statement how

many pupils in your class are hyperactive the teachers greatly responded with the mean of 3.04 and a standard deviation of 1.47. Again, most of the teachers respondent to the statement can you identify pupils with ADHD with a mean of 3.84 and a standard deviation of 1.17. With regard to the statement How difficult it is to manage pupils with ADHD in your class. Teachers greatly responded with a mean of 4.00 with a standard deviation of 1.29.the mean of means of 3.39 shows that the children with ADHD in the schools are quite high.

With regards to how teachers handle pre-scholars with ADHD, the learner's respondents were of the view teacher punished them unlawfully. Some responses are outlined below.

Child 1: ''*It is because my madam doesn't like me. because when you talk small she will just start canning me. Now I don't talk in the class again''.*

Child 2: *madam does not care whether you do go or bad, she said am not normal when I talk in class*

According to American Psychiatric Association (2013), the criteria needed for an accurate diagnosis are available in the DSM-IV and include three major characteristics: impulsivity, inattention, and hyperactivity. The association further explained the three major characteristics of ADHD: Impulsivity can be seen in children who blurt out answers, have difficulty awaiting their turn, and who interrupt others; inattention can be defined as inattention to detail, careless mistakes in schoolwork, difficulty maintaining attention and listening, not completing assigned tasks, deficits in organizational skills, losing needed materials, avoiding tasks, forgetfulness, and being distracted by environmental stimuli; hyperactivity can be exemplified by being fidgety, leaving areas without permission, running excessively,

having difficulty playing quietly, being in constant motion, and talking frequently (American Psychiatric Association, 2013

Research question two: *What is the assessment of teachers on learners with ADHD in the socio-personal context in the Suhum Municipality?*

Research question two sought to find out how teachers' assess pupils with ADHD in the mainstream. The data were collected from the teachers who usually interacted and observed the children. Frequencies, specially, mean and standard deviations were used for the analyses. The data analysis is presented in Table 2. The abbreviations used in the data were SA–Strongly Agree, A–Agree, D–Disagree, SD–Strongly Disagree.

Table 4.5: Teachers' assessment of pre-scholars with ADHD in the socio-personal context

Variables	Mean	Std. Deviation
1. ADHD pupils make careless mistakes in school work	3.96	1.59
2. Often had difficulty sustaining attention in task or play activities	3.81	1.45
3. Often had difficulty organizing task and activities	2.62	0.35
4. Often talks excessively	3.14	0.71
5. Often distracted by extraneous stimuli	3.36	1.17
6. Often fidgets with hands, feet or squirms in seat	3.14	1.25
7. Often leaves seat in classroom or in other situation in which remaining seated is expected.	4.00	1.57

Source: Field Survey (2021)

Table 4. 5, presented data on the Teachers' assessment of pre-scholars with ADHD in the socio-personal context, most of the teacher's respondent to the statement ADHD pupils makes careless mistakes in school work with a mean of 3.96 and a standard deviation of 1.59. With regard to the statement Often had difficulty sustaining attention in task or play activities teachers were overwhelming their agreement to it. The responses yielded a mean 3.81 and a standard deviation of 1.45. Again, most the teachers greatly responded to the statement Often talks excessively with a mean of 3. 14 and a standard deviation of 0.71. With regard to the statement Often leaves seat in classroom or in other situation in which remaining seated is expected teachers were overwhelming their agreement to it. The responses yielded a mean 4.00 and a standard deviation of 1.57. The mean of means =3.4 from the analysis shows that in the socio-personal context of the teachers assessment of the children with ADHD high. It means it effects the teaching and leaning process meaningfully in the classroom

With regards to *assessment of teachers on learners with ADHD in the socio-personal context*. Some responses are outlined below.

Child 5:

> *''My madam wouldn't really listen to what I had to say. . . she didn't really see me as a person who had a problem . . . she just saw me as the problem . . . just diagnosing the problem, giving you medication, and letting you go away . . . She didn't listen to me . . . that would have been a lot better for me because I think I did need that sort of thing''*

Cooper (2016) denotes that ADHD is one of the first things that teachers can suspect or perceive when a child's behaviour in class or performance is problematic. Copper said teachers' perceive a child who can't sit still, who blurts out answers in class without raising his hand, who doesn't finish his work, who seems to be daydreaming when the teacher gives instructions to have ADHD. According to NICE (2016), important for teachers to be aware of what ADHD looks like in the classroom, and

how it might be confused with other things that could be influencing a child's behaviour. Observing kids carefully is especially important when kids are too young to be able to articulate what they are feeling (Cooper, 2016; NICE, 2016).

Moreover, American Psychiatric Association (2013) agreed with Erskine (2010) that teachers perceive learners with ADHD in three behaviour patterns: inattention, hyperactivity and impulsivity. Fatmi (2008) and Atkins et al. (2010) were of the view that most teachers conceive the stereotype of ADHD is boys disrupting class activities by jumping up from their seats, getting in other kids' business, or blurting out answers without raising their hands. Likewise, LeRoy and Simpson (1996) claimed most teachers perceive that children diagnosed with ADHD have problems with following instructions and paying attention appropriately to what they need to attend to. They also seem not to listen, are disorganized, have poor handwriting, miss details, have trouble starting tasks or with tasks that require planning or long-term effort, appear to be easily distracted, and/or are forgetful. In addition, Willcutt (2019) agreed with Faraone et al., (2013) that teachers perceive that some children diagnosed with ADHD can be fidgety, verbally impulsive, and unable to wait turns, and act on impulse regardless of consequences.

Research question 3: *What are the effects of ADHD on teaching and learning in the classroom context in the Suhum Municipality?*

Research question three sought to examine the effects of ADHD on teaching and learning. The data was collected from the teachers who usually interacted and observed the children. Frequencies, specially, mean and standard deviations were used for the analyses. The data analysis is presented in Table 3.

Table 4.6: ADHD effect on teaching and learning in the classroom context

Variables	Mean	Std. Deviation
1. Demand attention by talking out of turn or moving around the room	3.76	1.87
2. Have trouble following instructions	4.00	1.67
3. Often forget to write down homework assignments, do them, or bring completed work to school	2.73	1.18
4. Do not pull their weight during group work and may even keep a group from accomplishing its task	3.26	0.39
5. Difficult to sit still for extended period of lessons	3.26	1.57
6. Interrupt lessons by asking unnecessary questions	4.00	1.89
7. Often blurts out answer before questions have been completed	2.36	1.191
Means of means	**3.34**	

Source: Field Survey (2021)

Table 4.6 illustrates results on effects of ADHD on teaching and learning**.** According to the data, Most of the teachers responded to the statement Demand attention by talking out of turn or moving around the room with a mean of 3.76 and a standard deviation of 1.81. With regard to the statement Have trouble following instructions teachers were overwhelming their agreement to it. The responses yielded a mean 4.00 and a standard deviation of 1.67. Again, most the teachers greatly responded to the statement do not pull their weight during group work and may even keep a group from accomplishing its task with a mean of 3. 26 and a standard deviation of 0.39.

With regard to the statement Interrupt lessons by asking unnecessary questions teachers were overwhelming their agreement to it. The responses yielded a mean 4.00 and a standard deviation of 1.89. The mean of means =3.34 from the analysis shows that in the *effects of ADHD on teaching and learning in the classroom context* of the children with ADHD is high. This means must be effecting the teaching and learning process meaningfully in the classroom.

With regards *the effects of ADHD on teaching and learning in the classroom context*. Some responses are outlined below

Child 2: *'I don't disturb, I only do what my madam said we shouldn't bring to class or tell madam. Eg. Someone chewing a gum. Someone with toffee in the pocket'.*

Child 3: *any time I walk to drink water my teacher always say am disturbing and shouted on me*

Child 6 : *hmm, my teacher say I talk too much in class , so I will not talk again*

Fatmi (2008) claimed that it is possible to find a child with ADHD in every single Ghanaian classroom and their presence cannot be avoided. With their behaviours, they take time away from the teaching period by disturbing the whole class (Lamptey, 2017; Twi-Yeboah, 2019). In a recent study. Lamptey (2017) outline some ways children with ADHD disturb teaching and learning. They demand attention by talking out of turn or moving around the room, have trouble following instructions, especially when they're presented in a list, and with operations that require ordered steps, such as long division or solving equations, often forget to write down homework assignments, do them, or bring completed work to school, often lack fine motor control, which makes note-taking difficult and handwriting a trial to read, have problems with long-term projects where there is no direct supervision and do not pull

their weight during group work and may even keep a group from accomplishing its task (Fatmi, 2008; Lamptey, 2017; Twi-Yeboah, 2019).

Moreover, NICE's (2016) disclosed that children with ADHD often pay the price for their problems in low grades, scolding and punishment, teasing from their peers and low self-esteem. This makes the teacher feels guilty because he/she can't reach the child with ADHD and wind up taking complaints from parents who feel their kids are being neglected in the classroom.

Research question 4: *What are the strategies for handling learners with ADHD in the Suhum Municipality?*

Research question four sought to ascertain strategies for handling learners with ADHD in the mainstream. The data were collected from the teachers who usually interacted and observed the children. Frequencies, specially, mean and standard deviations were used for the analyses. The data analysis is presented in Table 3. The abbreviations used in the data were SA–Strongly Agree, A–Agree, D–Disagree, SD–Strongly Disagree.

Table 4.7: Strategies for Handling Pre-scholars with ADHD

Variables	Mean	Std. Deviation
1. Peer tutoring	3.60	1.35
2. Hands-on activities	3.60	1.67
3. Computer assisted instruction	3.02	1.46
4.Readjusting schoolwork according to individual students' needs	2.67	.45
5. Individualized teaching	4.00	1.86
6. Responsibility assignment	3.12	1.54
Means of means	**3.34**	

Source: Field Survey (2021)

Table4. 4.7, presented data on the Strategies for handling pre-scholars with ADHD, most of the teacher's respondent to the statement Peer tutoring with a mean of 3.60 and a standard deviation of 1.35. With regard to the statement Hands-on activities teachers were overwhelming their agreement to it. The responses yielded a mean 3.60 and a standard deviation of 1.67. Again, most the teachers greatly responded to the statement Individualized teaching with a mean of 4. 00 and a standard deviation of 1.86. With regard to the statement Computer assisted instruction teachers were overwhelming their agreement to it. The responses yielded a mean 3.02 and a standard deviation of 1.46 *effects of ADHD on teaching and learning in the classroom context effects of ADHD on teaching and learning in the classroom context. The mean of means (3.34) shows that the strategies was adopted could be justify effectively*

With regards to how teachers handle pre-scholars with ADHD, the learner's respondents were of the view teacher punished them unlawfully. Some responses are outlined below.

Child 1: ''*It is because my madam doesn't like me. because when you talk small she will just start canning me. Now I don't talk in the class again''.*

Child 2: '*I cannot talk because madam will beat me. She is quick tempered any small thing you do she will be angry so me I don't like her. Change her for us*

Child 3: '*I only go for some learning materials that we don't have on our table'. The learners responses indicates that teachers should motivate that praising the little that they do. This makes the children concentrate on their work because they want to be praise. Eg. What a beautiful work. Just putting toffee or pack of toffee on the teacher's table without saying anything. They are so quiet in class and some even go to the extent of telling the teacher that he or she didn't talk in class today. Expecting a reward from the madam.*

Child 4: *''I started school off well, like I had a good teacher, but then in year two I had a teacher who didn't like me so I took a real dislike to her and so that didn't work well at all''.*

Child 5:

''My madam wouldn't really listen to what I had to say . . . she didn't really see me as a person who had a problem. . . she just saw me as the problem . . . just diagnosing the problem, giving you medication, and letting you go away . . . She didn't listen to me . . . that would have been a lot better for me because I think I did need that sort of thing''

This finding was supported by different studies and notable among them include; (DuPaul & Weyandt, 2016, Noi-Okwei and Agu (2016), Rivard et al., 2017). DuPaul and Weyandt (2016) asserts that class-wide peer tutoring (CWPT) is a method involving two students, one being the tutor and the other the tutee. The authors noted that the attention span of students with ADHD tends to expand, as the instructional characteristics of peer tutoring exist in several models of peer tutoring (DuPaul & Weyandt, 2016). Additionally, designing the classroom to accommodate students with ADHD, Sherman et al. (2018) alleged that as a teacher, you can make changes in the classroom to help minimize the distractions and disruptions of ADHD. The authors also advised teachers to individualized teaching and learning to meet the individual needs of the students.

In a research, Noi-Okwei and Agu (2016) indicated that "class peer tutoring increased active engaged time for students with ADHD and reduced their disruptive off-task behaviour," and increased their academic performance as well. Class-wide peer tutoring interventions can significantly increase the attention span of a student, even among children who have serious problems staying alert and focused (Noi-Okwei & Agu, 2016). Similarly, Rivard et al., (2017) denote that children with ADHD are more likely to attend to and complete tasks that include hands-on activities. The authors' said disruptive behaviour has been proven to decrease academic performance but practical activities increased along with academic performance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The purpose of the study was to assess teachers' assessment of learners with attention deficit disorder in teaching and learning in the mainstream in the Suhum Municipality. The specific objectives of the study include; (i) to determine the prevalence of ADHD symptoms in the Suhum Municipality, (ii) to find out how teachers' assess learners with ADHD in the socio-personal context in the Suhum Municipality, (iii) to examine the effects of ADHD on teaching and learning in the classroom context in the Suhum Municipality and (iv) to identify strategies for handling learners with ADHD in the Suhum Municipality.

5.1 Summary of Findings

From objective one, prevalence of ADHD symptoms as rated by teachers, the study found out that majority of the respondents affirmed that there are about 1-5 pupils with ADHD in their class. It also discovered that all the respondents were certain that they can identify pupils with ADHD in class and manages them as well, but more than half of the respondents claimed it is very difficult.

Findings from objective two, teachers' assessment of learners with ADHD in the sociopersonal context suggest with most of the respondents were of the view that pupils with ADHD; make careless mistakes in school work often had difficulty sustaining attention in task or play, often had difficulty organizing task and activities. Additionally, all the respondents affirmed that pupils with ADHD often talks excessively and often fidgets with hands, feet or squirms in seat often distracted by extraneous stimuli and often leaves their seat in classroom or in other situation in which remaining seated is expected.

Moreover, findings from objective three signifies that a huge percentage of the respondents affirmed that pupils with ADHD have trouble following instructions often forget to write down homework assignments, do them, or bring completed work to school demand attention by talking out of turn or moving around the room, do not pull their weight during group work and may even keep a group from accomplishing its task have difficulty sitting still for extended period of lessons, interrupt lessons by asking unnecessary questions and finally, often blurts out answer before questions have been completed.

Finally, findings from objective four infers that peer tutoring, hands-on activities, individualized teaching, responsibility assignment and using praise to reward positive behaviour, computer-assisted instruction, group activities and setting-up classroom to avoid distractions are other strategies for handling learners with ADHD.

5.2 Conclusion

In the light of the findings, it could be concluded that there are about 1-5 pupils with ADHD in each class in a pre-school and most of the teachers can identify and manage them though most of the them claimed it will be very difficult. The study further concluded that in the socio-personal context, pupils with ADHD make careless mistakes in school work, often had difficulty sustaining attention in task or play activities, often had difficulty organizing task and activities, often talks excessively and often fidgets with hands, feet or squirms in seat, often distracted by extraneous stimuli and often leaves their seat in classroom or in other situation in which remaining seated is expected.

Besides, it could be concluded that in the classroom context, pupils with ADHD have trouble following instructions, often forget to write down homework assignments, do them, or bring completed work to school, demand attention by talking out of turn or

moving around the room, do not pull their weight during group work and may even keep a group from accomplishing its task, have difficulty sitting still for extended period of lessons, interrupt lessons by asking unnecessary questions and finally, often blurts out answer before questions have been completed.

Finally, it could be concluded that peer tutoring, hands-on activities, individualized teaching, responsibility assignment and using praise to reward positive behaviour, computer-assisted instruction, group activities and setting-up classroom to avoid distractions are other strategies for handling learners with ADHD.

5.3 Limitation of the Study

This study focusing on the learners with Attention Deficit Disorder among public basic school pupils in the Suhum Municipality was limited in several ways. First, since this study assessed public basic school pupils, the study may only be generalized to that same level assessed. Second, the identified ADHD cases were based on the research criteria only and not confirmed by a clinical diagnosis as the participants were not evaluated by a behavioral special standard

5.4 Recommendations

Based on the conclusions drawn, the following recommendations were suggested.

1. Managing pre-scholars with ADHD is very difficult and so teachers are encouraged to do their best to create a conducive atmosphere for such pupils in the classroom.

2. The characteristics of pupils with ADHD portrays them as destructive but teachers are advised to organize class activities to meet the unique needs of every pupil in the classroom.

3. Teachers are urged to monitor the pupils with ADHA in class and especially during lessons since they may disrupt the process and disturb other pupils.

4. Moreover, teachers are commended to inspect the work of pupils with ADHD regularly since they often forget to write down assignments, bring completed work to school.

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APPENDIX

UNIVERSITY OF EDUCATION, WINNEBA

FACULTY OF EDUCATIONAL STUDIES

QUESTIONNAIRE FOR RESPONDENTS

Introduction

The purpose of this research is to assessment of teaching and learning of pre-schoolers with attention deficit disorder in the mainstream in the suhum Municipality, Ghana. This research seeks to gather information on the topic above. There are no risks involved in responding to the questions. The information provided will be considered highly confidential and will not be exposed to any other person except the researcher and the supervisor. Your participation is totally voluntary and you are under no obligation to complete the questionnaire. It will take about 30 minutes to complete the questionnaire. As a participant of this survey, a summary of findings may be delivered to you on your request.

Please indicate your response by ticking (√) or writing in the spaces provided.

SECTION A:

DEMOGRAPHIC CHARACTERISTICS

1. Sex

Male= 0, Female=1 [ ]

2. Age range

20-29=0, 30-39=1, 40-49=2, 50-60=3 [ ]

3. Professional qualification

Diploma=0, Degree = 1, M.Ed./MA=2, MPhil=3 [ ]

4. Number of years in service

1-5=0, 6-10=1, 11-15=2, 16-20=3, 21-25=5, 26-30=6 [ ]

SECTION B:

The prevalence of ADHD symptoms

5. Have you received any formal training in special education?

   Yes [ ] No [ ]

6. Are there students with ADHD in your class?

   Yes [ ] No [ ]

7. How many pupils in your class are hyperactive?

   1-5 [ ] 6-10 [ ] 11-15 [ ] 16-20 [ ] 21-30 [ ]

8. Can you identify pupils with ADHD?

   Yes [ ] No [ ]

9. Are you able to manage pupils with ADHD in your class?

   Yes [ ] No [ ]

10. How difficult it is to manage pupils with ADHD in your class?

    Very difficult [ ] Quiet difficult [ ] Not difficult [ ]

Teachers' identification of pre-schoolers with ADHD

10. Kindly indicate you level of agreement on the following statement.

Strongly agree – 1, Agree – 2, Neutral – 3, Disagree – 4, Strongly disagree 5

ADHD pupils;

- make careless mistakes in school work [ ]
- Often had difficulty sustaining attention in task or play activities [ ]
- Often had difficulty organizing task and activities [ ]
- Often talks excessively [ ]
- Often distracted by extraneous stimuli [ ]

- Often fidgets with hands, feet or squirms in seat. [ ]
- Often leaves seat in classroom or in other situation in which remaining seated is expected. [ ]

ADHD effect on teaching and learning

11. Kindly indicate you level of agreement on the following statement.

Strongly agree – 1, Agree – 2, Neutral – 3, Disagree – 4, Strongly disagree 5

Pre-schoolers with ADHD;

- demand attention by talking out of turn or moving around the room [ ]
- have trouble following instructions [ ]
- often forget to write down homework assignments, do them, or bring completed work to school [ ]
- do not pull their weight during group work and may even keep a group from accomplishing its task [ ]
- difficult to sit still for extended period of lessons [ ]
- interrupt lessons by asking unnecessary questions [ ]
- often blurts out answer before questions have been completed [ ]

Strategies for teaching learners with ADHD

11. Which of the following strategies could be adopted for teaching pre-schoolers with ADHD. Please tick as many as applicable?

- Peer tutoring [ ]
- Hands-on activities [ ]
- Computer-assisted instruction [ ]
- Readjusting schoolwork according to individual students' needs [ ]
- Individualized teaching [ ]
- Responsibility assignment [ ]

Thank you for your cooperation