

# Mentoring Interventions for Students with ADHD Facilitated by Teaching the Teacher Using a Modular Approach

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## Abstract

*Attention Deficit Hyperactivity Disorder, (ADHD) is a prevalent disorder with a number of different characteristics. It's not just about the hyper child or the child that lacks attention and focus, but a combination of characteristics interfering with everyday success. More specifically, today's classrooms are filled with a variety of different children, including children from different cultures and religions, as well as others with different learning styles. This may have an impact on educational outcomes. The purpose of the following inquiry is to introduce an educational intervention to encourage children diagnosed with ADHD to become lifelong learners. This is facilitated by **TEACHING THE TEACHER**, then using a modular, one-to-one approach to educate children about their ADHD. The discussion and exploration will draw direct attention to an intervention strategy with focus on educating students, teachers, and families about ADHD. The potential success may be achieved using specific educational modules designed for interactive and tangible outcomes. I will highlight the characteristics of ADHD and the impact on academic success; I will then explore further discussions about current academic interventions. I will also discuss the value of preparing teachers to educate children about ADHD and the impact it may have on various academic and behavioral outcomes. I will review the literature and introduce questions that arise about the academic concerns of children diagnosed with ADHD. Furthermore, there will be some insight regarding research, suggesting that the co-morbidity of the diagnosis is a significant factor in the success of children in an academic environment.*

## 1. Introduction

The following explorative inquiry may guide future research about strategies that can have a positive effect on educating youth, teachers and parents about ADHD. The exploration may also

guide educators to encourage students with ADHD to want to succeed academically. Furthermore, it will attempt to present communities with an understanding that increased knowledge and awareness about ADHD, and collaboration among students, parents and teachers, the academic outcome of children with ADHD may be more positive.

I believe this outcome can be achieved through an educational modular approach where students and teachers become educated about ADHD. If teachers are educated about ADHD and then teach children about ADHD, this may lead to positive behavioral interventions and changes that encourage future success with managing the diagnosis.

This inquiry will introduce strategic interventions and initiatives designed as one- to- one modules that is specifically targeted at educating children about ADHD, while also meeting curriculum goals. Many educators agree that the training they received in their undergraduate studies did not appropriately teach them interventions and strategies for working with children that struggle with ADHD.

As more research is done, there continues to be failures in academics because of behavioral issues in school with children diagnosed with ADHD. The problem is: how can educators teach people about ADHD in order to prevent the negative effect of the characteristics of the disorder? Parents and teachers have suggested that early academic experiences have an impact on the long term academic outcomes of many children with the diagnosis.

Therefore, teachers, parents and children with ADHD need to be educated about the diagnosis and there needs to be an effective implementation of strategies in the classroom in order to manage ADHD. **TEACHING THE TEACHER** about the characteristics, and the co-morbidities of a diagnosis, as well as providing counselling for strategies and in-class interventions, can bridge a gap for the ADHD student.

Therefore, implementation of educational modules may result in improvements in academic outcomes for students with an ADHD diagnosis. The positive outcomes of inspiring individuals with ADHD to be

lifelong learners through education and support may be achieved through collaborative initiatives and strategic interventions. These initiatives may further educate children, parents, and professionals that perhaps can encourage ongoing academic success.

## **2. Research about the core characteristics of ADHD and the co morbidities affecting educational outcomes and behaviours**

Attention Deficit Hyperactivity Disorder (ADHD) is a common, long-lasting, treatable childhood psychiatric disorder. It is characterized by a pattern of developmentally inappropriate behaviors, inattention, motor restlessness, and impulsivity that affects approximately 3-7% of school-aged children [1].

ADHD results from insufficient functioning of the frontal and prefrontal lobes and executive functions. It appears that the frontal lobes have not been fully woken up by the neurotransmitter norepinephrine. "Norepinephrine is one of many neurotransmitters released by nerves in the locus coeruleus onto the cortex of the brain" [2]. "ADHD is not a single pathophysiological entity and appears to have a complex etiology. Multiple genetic and environmental factors act together to create a spectrum of neurobiological delays or lags in the brain" [1]. This may impair the way a person's executive functioning works. Executive functioning is comprised of at least six components according to Arthur L. Robin, he suggests the six components are a combination of behavioral inhibitions. "These behavioral inhibitions affect working memory, verbal working memory, self-regulation, constitution, and motor control/fluency/syntax" [3].

Intervention begins with education. In order for people to understand ADHD, they need to understand what characteristics affect them and how. According to the Learning Disabilities Association of Canada (LDAC), ADHD is recognized as a learning disability and it also has a list of co-morbid behaviors that can interfere with academics, social awareness, and overall success. Furthermore, Biederman and Farone [9] state that, "many people have a combination of characteristics and some of them might not just be impulsivity or hyperactivity, but these characteristics are affected by the impairment of the frontal lobe because of the neurotransmitters dopamine, serotonin and nor epinephrine".

Traditionally these impairments will interfere with a number of key skills required for academic success in the classroom environment. That being said, there is a significant risk for children with ADHD to face a number of challenges in their academic environments. They may not directly have a learning disability, but

the troubles they encounter as a result of the lag in their executive functioning capacity may interfere with their academic success. Therefore there needs to be appropriate assessments, diagnosis, and interventions that may encourage more positive academic experiences and continued lifelong learning. ADHD is a condition that affects millions of people. Problems associated with ADHD include inattention and/or hyperactivity and/or impulsivity, as well as problems with prioritizing, time management, staying on task, organization, and other executive functioning tasks [6]. Furthermore, ongoing research by child Psychiatrist, Russell Barkley [7], [8] suggests there are a number of characteristics that are common and manageable.

The following characteristics are a summary of some of the broader swath of impairments that affect individuals in their education, social life, family life, and home life. Individuals with ADHD are often distractible. Being easily distractible characterizes ADHD more than anything else. This affects ability to maintain attention to tasks and be productive. People have ideas and inspirations for all kinds of projects that never quite get completed. Inattentiveness and hyper focusing are also common characteristics. On the flip side, people with ADHD often have a strange phenomenon called hyper focusing, where they completely forget about their surroundings when they are doing something they enjoy. They focus so intensively they often go into a trance-like state. In these short bursts of hyper focusing, they are not distractible and can often get a tremendous amount of work done. Many people with ADHD can use this hyper focus to their advantage. When they find something they are interested in, they make this their vocation and become very productive. It can be the difference between success and failure [3].

Forgetfulness is another characteristic that can have an enormous impact on people with ADHD. It can be present to the point where it has a negative ripple effect on the child academically and in the home. Disorganization is an area that plagues many ADHD children and adults. Individuals with ADHD that struggle with organization will often live their lives in a whirlwind, and everything around them is disorganized. This is something people can overcome with tools like computers and electronic organizers that encourage structure and organization [2]. Confused and jumbled thinking is a common characteristic because so much is happening so fast. It just seems there is no time to think. Many people with ADHD really cannot stay on one train of thought. They feel like they have ten TV stations on all at once, and they have no idea which one to focus on. Their thoughts can bounce around and make it very difficult to have peace of mind. Some people are so affected by this that they cannot carry on a conversation without bouncing from

one topic to another; they tend to ramble on without any rhyme or reason [3].

Procrastination, another characteristic, is a double edged sword. It seems many people with this characteristic will find every excuse to avoid the task at hand. People often take on too many responsibilities and end up not being able to complete any of them; then they keep putting things off until they are in an anxious state of panic. They spend too much time on the things that do not matter and put off the things that really do matter [4]. They often have difficulty planning ahead because some individuals will lack the ability to maintain structure and organization in their mind. They will naturally tend to be impulsive and do things at the last minute. Some people can only work well and stay focused when they are in a life or death emergency situation. This results in undue stress especially if they have deadlines hanging over their head and fail to meet the deadlines [2].

Another characteristic is impulsivity or rushing to judgement. This issue can become increasingly serious over time. An individual with ADHD often needs to have things now and they may act on a whim to satisfy an urge. They may overlook crucial details, become easily frustrated, and then become aggressive. They often have sloppy handwriting and make careless errors. They may lose their temper and have angry outbursts [3]. People with ADHD sometimes end up self-medicating, or become involved in dangerous sports, business ventures or other risky behaviors because they never have a sense of focus or serenity. Many people have self-reported seeking activities that provide high stimulation. They need that rush of adrenaline to feel like their mind is really working properly [4].

Hyperactivity is common with people with ADHD, but it is not always present. A lot of people with ADHD are rather docile people, even lethargic at times [5]. This may affect overall performance and impact the outcome in a number of environments. Other research supports several co morbidities. For example, according to statistics from Harvard Medical School, 51% of people with ADHD have other serious disorders like conduct disorder, anxiety disorder, or depression. These can be very serious problems that can end up becoming more complicated than the ADHD [9]. Many children with ADHD face academic failure and they often struggle with everyday tasks. Furthermore, they have bursts of brilliance followed by poor performance and it can be frustrating for teachers, parents, and the child. They often have low self-esteem because they never quite live up to their true potential and are referred to specialists such as counsellors for interventions. Family counsellors suggest troubled relationships and communication problems with family

and friends are affecting the lives of people that struggle with ADHD.

The Diagnostic Statistical Manual (DSM) labels ADHD or (AD/HD or ADD) as a neurobehavioral developmental disorder [10]. The DSM - IV is a reliable tool that allows psychologists to screen children for at-risk behaviors that are fundamental characteristics of ADHD. Diagnosis of ADHD must meet DSM-IV criteria. Psychologists that use the reference for assessment attempt to determine a profile through consultations with parents and teachers. Psychologists and teachers suggest ADHD is chronic. However, it is primarily characterized by the co-existence of attention problems and hyperactivity, with each behavior occurring infrequently alone and symptoms starting before seven years of age [10]. Therefore, the evidence of symptoms of impairment must come from parents or caregivers, classroom teachers, or other school professionals. Most psychologists will also include evaluations for additional co morbid conditions. The psychologists will use rating scales designed specifically to assess ADHD symptoms that should be used in addition to narrative reports and observations.

Following the diagnosis professionals are more able to determine an individual educational plan. However, if people suggest they are ADHD and have no issues, then quite frankly they are not ADHD. These characteristics must be interfering with success and they must appear in at least two different environments.

The following is a summary of the criteria as suggested in the DSM- IV [10].

### **6 of 9 Inattention Symptoms**

- Fails to give close attention to details, sees the bigger picture
- Difficulty sustaining tasks
- Difficulty listening
- Does not seem follow through on instructions
- Processing difficulties
- Difficulty organizing tasks or activities
- Avoids tasks requiring sustained mental effort poor motivation
- Loses things necessary for tasks
- Easily distracted
- Forgetful in daily activities

### **6 of 9 Hyperactive-Impulsive**

- Fidgets with hands or feet or squirms in their seat
- Leaves their seat in the classroom inappropriately
- Runs about or climbs about excessively
- Has difficulty playing quietly

- Is “on the go” or “driven by a motor”
- Talks excessively, and off topic often
- Blurts out answers before questions are completed
- Has difficulty waiting their turn
- Interrupts others when others are talking

#### **Other DSM-IV Criteria**

- Developmentally inappropriate levels
- Duration of at least 6 months
- Pervasive in more than one environment
- Impairment in major life activities
- Onset of symptoms by age 7
- Exclusions: severe MR, PDD, Psychosis

### **3. Making sense of the gaps in learning when ADHD is a diagnosis through mentoring and education as a multimodal approach**

Many youth and adults that have been diagnosed with ADHD often have little to no education about their diagnosis. They will be told they have ADHD and to take medication in order to manage. But, that being said, most children with the diagnosis have no idea what it is they are trying to manage. The motivation behind this inquiry is to attempt to bridge the gap that many youth face when diagnosed with ADHD. Ongoing inquiries and collaboration with parents, educators, and students suggest that there is a lack of education for youth about their diagnosis. There is a lack of support for educators to learn how to teach children with ADHD, and there is a lack of support for parents that have children with ADHD.

**TEACHING THE TEACHER** can facilitate a mentoring opportunity using set modules to educate youth, teachers, and parents about the diagnosis. The ideal method of delivery is in a one-to-one environment with an educated professional that is prepared to counsel and educate children about their ADHD. Furthermore, they connect with the school and home, providing strategies in order to facilitate success through regular emails and feedback for the parents and teachers.

There is little to no research in the area of an ADHD coaching module or mentoring strategy used in the school or educational environments. However, there are some similar strategic interventions that have been explored, but have yet to be researched and performed in a classroom environment. The suggestion by experts like Russell Barkley, Robert Dupaul, and several professionals that research ADHD indicate treatment is a combination of several methods such as medication, education, and behavioral and

environmental management. This suggests that the treatment of ADHD is a multimodal approach [11]. It involves the collaboration of several caring individuals and other team members with the same goals and visions [12]. ADHD children must learn how to manage their self-discipline as well as their self-regulation skills. ADHD is a disorder that is managed, not cured. A 2005 study by Plumer and Stoner investigate the effects of a multimodal approach called class-wide peer tutoring and peer coaching on social behaviors of children with ADHD. They examine peer tutoring, peer coaching, and classroom interventions for students that struggle with the diagnosis of ADHD. They conclude that “peer coaching is a promising intervention for addressing social problems with children with ADHD and other strategies in combination; might address problematic academic and familial issues” [11].

However, for interventions to be effective, there should be recognition of the ADHD characteristics, a focus on the diagnosis, and a clear understanding of description and prevalence. Therefore, many would agree that teachers need to be educated about the comorbidities of ADHD in order to improve and modify strategies that will increase positive academic experiences. ADHD is a common, long-lasting, treatable, childhood psychiatric disorder [12]. Furthermore, because ADHD is characterized by a pattern of developmentally inappropriate behaviors, inattention, motor restlessness, and impulsivity, it affects the academic outcomes of school aged children [1]. Since ADHD results from insufficient functioning of the frontal and prefrontal lobes and the executive functions of the brain, it affects attention and focus in class [2].

According to research published in the Italian Journal of Pediatrics by Paolo Curatolo, Elisa D'Agati, and Romina Moavero [1] they suggest that:

Individuals with ADHD present difficulties in several domains of attentional and cognitive functions: problem solving, planning, orienting, alerting, cognitive flexibility, sustained attention, response inhibition, and working memory. Other domains involving affective components, such as motivation and delay aversion, are also affected. Motor difficulties, such as problems with sensory motor coordination, including poor handwriting, clumsiness, and marked delays in achieving motor milestones, have also been reported and the prevalence of motor impairment in the ADHD population has been estimated to be approximately 50%. Motor problems might be partially related to abnormalities in structure and/or function of the cerebellum and basal ganglia found in ADHD [1].

#### **4. Developing an ADHD strategic plan with focus on teaching the teacher as a multimodal plan**

Teachers need an ADHD strategic plan, and they need education about strategies. As a result, they can give ADHD students what they need to be successful in classroom. How can this be achieved? I believe this can be achieved by providing professional development opportunities by educated facilitators that have insight, knowledge, and experience with managing ADHD. Many professionals that work in the ADHD area suggest that, in order for an ADHD strategic plan to be effective, there needs to be the support from home as well as school. Furthermore, to be multimodal, professionals must begin to see the value in educating as many people as possible about the diagnosis, while still exploring medications and strategies in order to see success. The professionals that research ADHD also indicate some important program goals to focus on; such as, strengthening parent and child relationships, improving parental management skills, increasing family involvement at home, and promoting family and school collaboration [13].

The school collaboration and home involvement also hinges on the proper educational foundations and understandings of ADHD as well as other alternative methods of treatment. Current feedback from parents of students with learning disabilities through The Learning Disabilities Association of Saskatchewan (LDAS) reports that children are continually being assessed and diagnosed, and recommendations are being given, but there are no opportunities for certain recommendations to be fulfilled because of the lack of current ADHD services provided in the schools. ADHD is widely known and discussed topic in schools today and there are a number of alternative treatments. [14]

Teachers often report that students that struggle with ADHD have difficulty sustaining their attention during lessons; they may blurt out answers and act inappropriately in the classroom, as well as needing frequent activity changes in order to reduce the amounts of fidgeting and loss of motor control. Psychologists, teachers, and parents conclude that, as a result, these characteristics often interfere with an individual's ability to focus and succeed academically in the classroom [15]. Further observation and information needs to be gathered to determine what children know about ADHD in order to develop a plan for the student to have success. It begins with recognizing observing and questioning the following: What do their parents know about ADHD and how can they help? How much do their teachers know about the

disorder? How much does the child know about ADHD?

In order for students to grow and understand their ADHD, they need to learn how to advocate for themselves. They need to learn how to identify their characteristics and then explain their behaviors. In order for them to learn about their ADHD, they need professionals with knowledge about the subject area and then gain personal growth, develop problem solving skills and set goals for ongoing academic success [16]. Together a team can provide the needed multimodal approach and encourage youth with ADHD to become lifelong learners.

#### **5. Potential of successful interventions through mentoring students and teaching the teacher**

ADHD is a lifelong diagnosis. As a result, many would agree there is opportunity for ongoing success. Future research can guide professionals in determining if an ADHD coaching module or mentoring program that educates youth, teachers, and parents about ADHD will have a positive effect, especially on how students with ADHD perform academically in their school environment. Further questions can guide research to gain insight to determine if an increase in knowledge and awareness about ADHD changes academic outcomes. **TEACHING THE TEACHER** can facilitate learning for youth, teachers, and parents about ADHD. Increased knowledge will help people manage their ADHD successfully.

Living with ADHD can be similar to driving down the wrong direction of a highway with honking cars flying past you and all you see is a blur. The characteristics of ADHD affect every individual differently. Therefore, creating strategies based on individual characteristics can impact how children with ADHD manage their diagnosis. Some moments can be extremely exciting; other moments can feel like sheer panic and full of anxiety. People living with ADHD often get labeled and because of the label attached to ADHD, they may experience greater difficulties in a number of aspects of their lives. It seems the co-morbidity of the diagnosis is a significant factor in the success of many children in an academic environment. Many educators would agree there is a gap in the system and often teachers lack the strategies and education to teach children and youth about their ADHD. Many educators agree the training they have received in their undergrad did not prepare them to teach interventions and strategies for students that struggle with ADHD.

In a book, *Taking Charge of ADHD*, Russell Barkley suggests, education is key and an environment that exposes students with ADHD to a variety of interventions and strategies for the classroom, as well as education and support, may encourage greater opportunities for positive academic success [17]. The student that lacks focus and attention, and appears distracted and confused, probably is.



**Figure 1. A multimodal approach leading to lifelong learning for people with ADHD, adopted from M.E.S.S. 2015**

## 6. Conclusion

Research and questions about ADHD are guiding educators to develop different strategies, and methods of teaching in order to meet a variety of needs of students. As educators learn more about the different learning styles of students they develop new and different ways to teach in order to accommodate those students. However, invariably there appears to be a small percentage of students that just cannot seem to focus, process, and complete tasks. This is the attention deficit and hyperactive student and they often have difficulty in their academic environments because of their diagnosis. The right environment can really improve the potential for learning for students with ADHD. This narrative inquiry is designed to encourage professionals to question how we reach and teach students with ADHD, while providing potential interventions that will have lifelong effects on students that have a diagnosis of ADHD.

ADHD affects every person differently; the disorder can go unnoticed, undiagnosed and if left unmanaged, can have a negative impact on academics. Furthermore, there is opportunity for students with ADHD to gain lifelong learning skills that will increase their ability to manage their ADHD in the classroom and in other environments. In saying this, I believe the

potential for **TEACHING THE TEACHER** holds great value within our educational systems.

By **TEACHING THE TEACHER**, students will learn about their ADHD, as well as alternative interventions and successful strategies. Students can then begin to develop the skills necessary to manage their time, focus in class, respond appropriately to questions, have socially appropriate behaviors, and above all, have a voice to advocate for themselves.

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