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Teaching Future Educators How To Support Students with ADHD

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A Capstone Project for the Bachelor of Science in Human Development & Family Science

Introduction

The topic of my capstone project is teaching future educators how to support school-age students with Attention Deficit Hyperactivity Disorder (ADHD). ADHD is one of the most common mental disorders of children in the United States. According to the CDC (2023), an estimated 9.8% (6 million) of kids ages 3-17 are diagnosed with ADHD. Because of the difficulties that are symptomatic of ADHD, students with the disorder often fall behind and struggle in school. Many of the symptoms deal with difficulties in executive functions. Executive functioning is the cognitive processes related to skills such as planning, regulation, and memory. These students typically have difficulties starting or finishing tasks, following directions, and trouble staying organized. One of the problems is that ADHD is frequently misunderstood, with misconceptions and outdated information. Many parents and educators are unaware of the different manifestations of ADHD or how to support their struggling students. If more educators are aware of how the disorder presents itself and know how to support these students with helpful strategies, then more students can thrive in school and have better outcomes. Because of this need, I developed a workshop that will teach future educators this information. My workshop covers the basics of ADHD and how it presents, the common struggles with executive dysfunction that these students have in school, as well as tools and strategies to help support struggling students. My workshop was held over zoom with students that are studying to become teachers.

Needs Statement

While many children sometimes have trouble staying still or paying attention, those with Attention Deficit Hyperactivity Disorder (ADHD) experience it consistently, severely, and to a developmentally inappropriate amount. It interferes with their functioning and development, in many aspects of their life (NIMH, 2023). Because so much time is spent in school, teachers become a large part of children's lives and they play a crucial role in a child's experience with learning and school. That's why my capstone project focused on teaching future educators how to support school-age students with ADHD, so that they can hopefully use the information they learned in their future careers as teachers. This section of the paper will outline why this issue is important and needs attention.

Attention Deficit Hyperactivity Disorder is a neurodevelopmental disorder characterized by difficulty regulating attention and impulse control. It is one of the most common mental disorders of children in the United States. According to the CDC (2023), an estimated 9.8% (or 6 million) of kids ages 3-17 in the United States are diagnosed with ADHD. There is no known cause of ADHD, but current research shows genetics play a large role. It is most likely a complex combination of many genetic and environmental risk factors (Faraone et al., 2021). The symptoms of ADHD are categorized by inattentive symptoms or hyperactive-impulsive symptoms. These form the three classifications for ADHD types, and the primary symptoms determine which type: primarily inattentive, primarily hyperactive/impulsive, and combined. ADHD symptoms are noted to include difficulties with executive functions. Executive functioning is the cognitive processes related to skills such as planning, regulation, and memory.

While it is a common disorder, ADHD is also frequently misunderstood and stigmatized. Social media is one way misinformation spreads today. A study by Yeung et al. (2022) examined

100 TikTok videos about ADHD, and found that 52 of them were misleading. One of the myths about ADHD is that it is a modern disorder, which is untrue. In fact, what we know today as ADHD has been documented in medical literature since 1775 (Faraone et al., 2021). Some misconceptions come from outdated information. Commonly one may hear people use the term "ADD" (Attention Deficit Disorder), which has not been used diagnostically since the 80's. It was the original classification for ADHD, but was changed in 1987. Use of the term "ADD" causes confusion and suggests that it is different from ADHD. There is also a lot of stigma associated with ADHD. This stigma can come from peers, authority figures such as teachers, and the general public. The validity of ADHD, behavior, and medication are some of the subjects of this stigma. This can be a risk factor affecting treatment adherence, treatment efficacy, symptom aggravation, and mental health (Mueller et al., 2012).

The symptoms of ADHD make school uniquely difficult. These students struggle due to the symptoms associated with the disorder, such as trouble focusing or paying attention, impulsivity, difficulty sitting still, distractibility, and more. These symptoms create school related problems like: trouble following instructions, losing papers and materials, avoiding tasks requiring sustained concentration, difficulty finishing work, or disruptive behavior (NIMH, 2023). Evidence of the struggles students with ADHD face in school were highlighted by the COVID-19 pandemic, when the lockdown forced students from in-person learning to virtual learning. Tessarollo et al. (2021) conducted a study during the COVID-19 pandemic and found that students with ADHD were having a harder time coping and maintaining grades with distance education compared to their non-ADHD peers, showing that behavioral and academic difficulties were worsened by the sudden changes. The study also found that the difficulties did not go away when the school lockdowns were lifted, and students could return to in-person learning

(Tessarollo et al., 2021). They found that the students with ADHD were having a harder time readjusting to the old normal. Students adjusted to the online learning format only to be forced back into in-person without proper preparation from school officials (Dou et al., 2021; Tessarollo et al., 2021).

Numerous studies have shown that students with ADHD of all grade levels are not only more likely to fall behind and graduate later than their non-ADHD peers, they are also more likely to drop out of school (Fried et al., 2013; Lawrence et al., 2020). In a study measuring academic performance of students with ADHD compared to their peers, the amount that students fell behind only increased with the amount of time in school. Students with ADHD had substantially lower performance in reading, writing, and numeracy. They found that by Year 5, the majority of the students with ADHD were more than a year behind the average for their age level (Lawrence et al., 2020).

Understanding and the right support can change children's experience with school for the better. Accommodations don't always have to be formal, and teachers can adapt their instruction to the needs of their students. There are ways to address common problems in school-aged children associated with ADHD, both working with the student individually as well as incorporating classroom management strategies. Working with the child's parents can also be very helpful for addressing difficulties and building skills. Some of the tips and strategies include utilizing trackers and checklists, having check-ins for assignments, breaking down the steps for a task, and incorporating movement. Even a few small changes to the environment can help, such as reducing distractions and stimuli, or moving the students desk closer to the teacher and away from distractions.

The prevalence of Attention Deficit Hyperactivity Disorder and the impacts it has on a person's education is an issue that is not addressed enough, with the disorder being misunderstood and stigmatized. The executive functioning problems that are symptomatic of ADHD are also common with other issues, and greater reinforcement or attention to executive function skills is something that would benefit all students. This is why I created a workshop to provide more information on ADHD and how students with it can be supported. The participants of my workshop were future teachers, so that they could use this information in the context of their education, and hopefully use it in their future careers.

Theory

The theory that informed my project was the Ecological Systems Theory. Developmental psychologist Urie Bronfenbrenner developed the Ecological Systems Theory, which illustrates how children's development is influenced by the environment in which they live. The theory models the child's environment as five layered, interconnected systems that surround them. The first is described as the microsystem which is the immediate environment of the child. Teachers and schools fall under this category which reinforces the amount of influence teachers have on their students. When creating my project, I examined the influences in the microsystem that surrounds the child. A considerable amount of a child's time is spent with their teachers and at school, so they are a significant part of their microsystem. The mesosystem is the connections between the micro system environments of the child such as communication between the parents and teachers. If there is conflict among the parent and teacher, that could negatively affect the child, especially if there is concern about the child's performance in school. However, supportive communication between caregivers and teachers can greatly help the child. The exosystem is

what affects the microsystem, but does not directly interact with the child. This can be examples such as a parent's stressful schedule which will affect the parents ability to support their child and create tension at home. The fourth one is the macrosystem which is the societal systems that the child lives in. This would include if the child was living in a lower income neighborhood and attending a school that received less funding. This would be compared to children who are living in affluent neighborhoods who are attending well funded schools. The final level in the Ecological Systems Theory is the chronosystem. These are events through time that are typically varying in predictability that impact a child through their life, such as changes, transitions, or even historical events (Guy-Evans, 2024). For example, a parent's impending divorce or changing schools when parents relocate for work.

Consideration of Diversity

The participants of my workshop were four female college students between the ages of 20 to 29, and either getting their bachelors in education or in a teacher preparation program. Two identified as Hispanic/Latino, and two identified as White. Throughout the entire previous decade, there has been a steady decline in enrollment in teacher programs. This decline can be attributed to the several possible factors including the decline in teacher salaries, cost of higher ed, and politicians' views on educators (Armstrong 2023, NCES 2023, Will 2023). In research conducted by Ed Fuller (2023), California had a 39.1% decrease in enrollment of teacher preparation programs between 2008 and 2021. The numbers for completion rates of the teacher preparation courses have also declined significantly. The overall decrease in completion of these programs was about 25%, however, numbers show a recent increase in completion rates. With these numbers also comes the concern for the lack of diversity among school teachers once people completed the program (Will, 2023).

Nationally, there is a lack of diversity among school teachers. The National Center for Education Statistics (2023) found that 80 % of school teachers are White, 9% are Hispanic/Latino, 6% were Black, 2% were Asian, 2% were Two or More Races, and less than 2% were listed as Other (NCES, 2023). There is also a clear gender gap where there is a majority of identifying females in comparison to male enrollees in the programs. According to the California Commission on Teacher Credentialing (2023), in 2021-22, of the total enrolled candidates, 73.2% were female and 25.1% were male. They also reported that for the same years, 37.2% were Hispanic/Latino, 35.5% were White, 7.9% were Asian, 4.3% Black/African American, 4.9% two or more races, and 9% non-reported race/ethnicity. California was much more diverse in their program participation and with school teachers, and can be considered to be more diverse overall than most other states. Those who were involved in teacher preparation programs often completed their programs, but the completion rates overall were unusually low.

Because my workshop was intended for students that are future teachers, I kept this in mind while creating the content. I did not simplify concepts too much, but also avoided jargon or complicated points. It was a priority to ensure that the participants could understand all of the material clearly and concisely at any level. The information was presented in a manner that allowed for this goal to be met.

Learning Outcomes

These learning outcomes are measurable, attainable goals for the participants of the one-day workshop delivered over Zoom. These goals were as follows:

1. Participants will be able to define ADHD and identify the characteristics of the three types.

2. Participants will be able to identify academic difficulties that are related to executive dysfunction.

3. Participants will be able to identify ways to support school-age students with ADHD.

Method

Location and Participants

The workshop was conducted over video on Zoom to make it as accessible and convenient as possible. It was held on a weekend afternoon and lasted approximately 60 minutes. There were four participants, who were recruited from acquaintances and mutual friends. They were all college students studying to become teachers, either in an undergraduate education program or a teacher preparation program.

Procedures and Materials

The workshop consisted of a Google Slides presentation, with a section for each learning outcome, and discussion for each section. The assessment was a Google form with nine questions, three questions for each learning outcome.

After brief introductions from myself and the participants, the first lesson focused on the basics of ADHD and the three symptom presentation types. I began with a small discussion, asking the participants what they already knew about ADHD and if it had been covered in their class's curriculum. The responses were varied and most seemed at least a surface-level understanding, if not more. I touched on the definition of ADHD, causes, and the prevalence. I then talked about the common myths and misconceptions about the disorder, as well as the symptomology and symptom presentation types.

In the second lesson I explained the academic difficulties common for students with ADHD. I asked the participants if they knew what executive functioning was, and they were familiar with it. I gave an overview of executive functioning skills, executive dysfunction, its relationship to the symptoms of ADHD, and how the difficulties and challenges associated with executive dysfunction interfere with school performance.

For the final lesson, I outlined ways that students with ADHD can be supported in the classroom, such as different ways to address common problems and working with parents. I also provided tips for working with the student as well as classroom management strategies. These tips and strategies include utilizing trackers/checklists, having check-ins for assignments, breaking down the steps for a task, and incorporating movement.

Results

The first learning outcome was that participants will be able to define ADHD and to identify characteristics of the 3 symptom presentation types. On the assessment quiz for this section I gave a true or false question and two multiple choice questions. By having the questions answered correctly by all the participants, I determined this learning outcome was fully met. The participants were able to accurately answer questions about the definition of ADHD, the characteristics, and three symptom presentation types (inattentive, hyperactive/impulsive, combined).

The second learning outcome was that participants will be able to identify the academic difficulties that are related to ADHD and executive dysfunction. On the assessment quiz for this section I had two multiple choice questions and a short answer question. Learning outcome 2 was fully met, the participants were able to correctly answer the questions regarding the

academic difficulties that are related to ADHD and executive dysfunction. Including planning, working memory, and task initiation.

The third learning outcome was that participants will be able to identify ways to support school-age students with ADHD. On the assessment quiz for this section, there were two multiple choice questions and a short answer question. With all questions for this learning outcome being answered correctly, I determined that it was fully met. The participants were able to identify ways to support school age students with ADHD through the methods provided to them in the session. These methods included reducing distractions/stimuli, building habits and routine, incorporating movement.

Discussion

The focus of this capstone project is about teaching future educators how to support school-age students with Attention Deficit Hyperactivity Disorder (ADHD), so that they can use the information they learn in their future careers. My project found success in its learning outcomes all being fully met. The participants were able to fully understand how to define ADHD and the ways it typically presents itself in students, and they were also able to interpret how to support their students with ADHD in their future academic settings to allow for their students to be able to thrive.

There were a few limitations that held the project back. One of the limitations was the lack of time available to conduct the study. Alongside this, it was difficult to secure enough participants through the means of communication I utilized for the seminar. Collecting the schedules from the students proved difficult because of their own commitments with their studies. It was hard to obtain the schedules because of these prior commitments. There were also

varying levels of knowledge among the participants. It caught me by surprise the amount of knowledge that they had when asked about ADHD.

 For future directions I would consider different modalities for the workshop. The varying schedules and locations of the participants made meeting in-person difficult for them so a fully online format was the most feasible option given the time. I would explore the possibility of having an in-person or hybrid session, which I think would allow better, more in-depth discussions and feedback. However, the online format has the possibility of having numerous more participants due to the ease of scheduling online, and a hybrid format could increase accessibility. If I could do the workshop again, I would like to reach out to more aspiring educators of varying backgrounds, and I would like to add more short answer questions instead of focusing on multiple choice questions. I found the answers for the short answer questions more insightful and gave me a better idea of what was learned. I'd also like to explore different versions of the workshop such as a version for caregivers.

References

California Commission on Teacher Credentialing. (2023, October 27). *State trends*.

https://www.ctc.ca.gov/commission/reports/data/state-trends

CDC. (2022). *Data and statistics about ADHD.* Centers for Disease Control and Prevention.

https://www.cdc.gov/ncbddd/adhd/data.html

Dou, A., Oram, R., Rogers, M., & DuPaul, G. (2022). The effects of ADHD symptomatology

and academic enabling behaviours on undergraduate academic achievement. *Psychology*

in the Schools, 59, 574– 588. https://doi.org/10.1002/pits.22632

Faraone, S. V., Banaschewski, T., Coghill, D., Zheng, Y., Biederman, J., Bellgrove, M. A.,

Newcorn, J. H., Gignac, M., Al Saud, N. M., Manor, I., Rohde, L. A., Yang, L., Cortese,

S., Almagor, D., Stein, M. A., Albatti, T. H., Aljoudi, H. F., Alqahtani, M. M. J.,

Asherson, P., Atwoli, L., … Wang, Y. (2021). The World Federation of ADHD

International Consensus Statement: 208 Evidence-based conclusions about the disorder.

Neuroscience and Biobehavioral Reviews, 128, 789–818.

https://doi.org/10.1016/j.neubiorev.2021.01.022

Fried, R., Petty, C., Faraone, S. V., Hyder, L. L., Day, H., & Biederman, J. (2016). Is ADHD a

risk factor for high school dropout? A controlled study. *Journal of Attention Disorders,*

20(5), 383–389. https://doi.org/10.1177/1087054712473180

Fuller, E.J. (2023, May). Trends in enrollment in US teacher preparation programs: 2009-2021

programs. *Penn State College of Education.*

Guy-Evans, O. (2024, January 17). *Bronfenbrenner's ecological systems theory*. Simply

Psychology. https://www.simplypsychology.org/bronfenbrenner.html

Lawrence, D., Houghton, S., Dawson, V., Sawyer, M. & Carroll, A. (2021), Trajectories of

    academic achievement for students with attention-deficit/hyperactivity disorder. *British*

    Journal of Educational Psychology, 91(2): 755-774. https://doi.org/10.1111/bjep.12392

Mueller, A. K., Fuermaier, A. B. M., Koerts, J., & Tucha, L. (2012). Stigma in attention deficit

    hyperactivity disorder. *Attention Deficit and Hyperactivity Disorders, 4*(3), 101–114.

    https://doi.org/10.1007/s12402-012-0085-3

 National Center for Education Statistics. (2023). *Characteristics of public school teachers.*

    Condition of Education. U.S. Department of Education, Institute of Education Sciences.

    https://nces.ed.gov/programs/coe/indicator/clr.

National Institute of Mental Health. (2023, September). *Attention-Deficit/Hyperactivity Disorder.*

    U.S. Department of Health And Human Services, National Institutes of Health.

    https://www.nimh.nih.gov/health/topics/attention-deficit-hyperactivity-disorder-adhd

Tessarollo, V., Scarpellini, F., Costantino, I., Cartabia, M., Canevini, M. P., & Bonati, M. (2021).

    Distance learning in children with and without ADHD: a case-control study during the

    COVID-19 pandemic. *Journal of Attention Disorders, 26(*6), 902–914.

    https://doi.org/10.1177/10870547211027640

Will, M. (2023, August 30). What Teacher-Preparation enrollment looks like, in charts.

    Education Week.

    https://www.edweek.org/teaching-learning/what-teacher-preparation-enrollment-looks-lik

    e-in-charts/2023/08

Yeung, A., Ng, E., & Abi-Jaoude, E. (2022). TikTok and Attention-Deficit/Hyperactivity

    Disorder: A Cross-Sectional Study of Social Media Content Quality. *Canadian journal of*

psychiatry. Revue canadienne de psychiatrie, 67(12), 899–906.

https://doi.org/10.1177/07067437221082854

Appendix

Capstone Festival Slides

Teaching Ways to Support Students with ADHD

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Introduction

My project is about supporting students with Attention Deficit Hyperactivity Disorder, or ADHD. I created a workshop to teach aspiring educators about ADHD and how they can support students with it.

As someone who went through school with undiagnosed ADHD, I know how difficult it can be, and hope to see it improve for future kids.

Needs Statement

- ADHD is a neurodevelopmental disorder that begins in childhood and is usually lifelong. It substantially effects attention regulation, hyperactivity, and impulse control.
- ADHD is one of the most common neurodevelopmental disorders of children in the U.S., ~9.8% (6 million) of kids ages 3-17 are diagnosed.
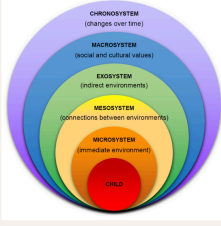
(CDC, 2022)

Theory

Bronfenbrenner's Ecological Systems Model
- Illustrates the connected structures of influences on development, comprised of five systems: the microsystem, mesosystem, exosystem, macrosystem, and the chronosystem
- Microsystem: A child's immediate environment, with the biggest impact. Teachers would be in this category, which reinforces the influence teachers have on their students.

Needs Statement

The Problem
The symptoms of ADHD make school uniquely difficult. Studies show that students with ADHD are more likely to fall behind, be held back, and drop out of school. Medication helps, but only to an extent.

The Need
Teachers play a crucial role in children's experience with school and learning. There is a need for teachers to be more informed about ADHD, tips, and classroom management strategies for supporting these students.

Learning Outcomes

LO 1
Participants will be able to define ADHD and identify the characteristics of the three types

LO 2
Participants will be able to Identify academic difficulties that are related to executive dysfunction

LO 3
Participants will be able to Identify ways to support school-age students with ADHD

Methods

Procedures and Materials
The workshop consisted of a Google slides presentation, with a section for each learning outcome, and discussion for each section. The assessment was a Google form with 9 questions, 3 questions for each learning outcome.

Methods

Location and Participants
The workshop took place remotely on Zoom, with a group of 4 female college students between the ages of 18 and 29 studying to be educators in credential programs.

Methods

Lesson Sections

- Section I: Introducing ADHD, it's symptoms, and it's three presentation types (Inattentive, hyperactive/impulsive, combined.)
- Section 2: The unique difficulties and challenges with executive dysfunction (e.g. planning, working memory, task initiation.)
- Section 3: Strategies for supporting students with these challenges (reducing distractions/stimuli, building habits and routine, incorperating movement.)

Results: Learning Outcome I

LO I Participants will be able to define ADHD and identify the characteristics of the three types.

The assessment had three multiple choice questions for this learning outcome, and all four participants answered them correctly.

Learning Outcome I was fully met.

Results: Learning Outcome 2

LO 2 Participants will be able to Identify academic difficulties that are related to executive dysfunction

The assessment had two multiple choice questions and one short answer question for this learning outcome, and all four participants answered them correctly.

Learning Outcome 2 was fully met.

Future Directions

Improvements for future:
- In person or hybrid
- Larger group, more participants
- More short answer questions instead of multiple choice
- Making a version for caregivers

Discussion

- Successes
  - All learning outcomes were met
  - Valuable experience
- Challenges & Limitations
  - Limited time
  - Online harder for discussion
  - Unaware of previous knowledge

Results: Learning Outcome 3

LO 3 Participants will be able to Identify ways to support school-age students with ADHD

The assessment had two multiple choice questions and one short answer question for this learning outcome, and all four participants answered them correctly.

Learning Outcome 3 was fully met.

Thank You!