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Promising Practice

HELPING STUDENTS WITH ADHD IN THE AGE OF DIGITAL DISTRACTION

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Abstract: A substantial number of students struggle with sustained attention in today's schools, including those with Attention Deficit Hyperactivity Disorder (ADHD). Both traditional and technology-driven strategies and tools are available to address the attention needs of students with ADHD and other students who struggle with attention in the classroom. By incorporating targeted environmental, organizational, and instructional techniques and tech apps into their everyday instructional and classroom management practices, teachers can improve the sustained attention and academic performance of all students. In doing so, teachers can create an equitable and enhanced learning environment in this age of increasing digitalization.

Keywords: *ADD/ADHD; technology; inclusion*

Introduction

According to the Centers for Disease Control and Prevention (CDC, 2017), a startling 11% of youth in the United States, between the ages of 4 and 17, have attention deficit hyperactivity disorder (ADHD), making it the most common psychiatric diagnosis in that age group and representing a 41% increase from 2003 to 2011 (Visser et al., 2014). While the American Psychiatric Association (APA, 2000) suggested that 3 - 7% of American children have ADHD, the CDC (2017) places the prevalence at twice the APA's figure. Regardless of estimate utilized, these children constitute a substantial percentage of the student population and are prominently among those whose behavior teachers describe as challenging in the classroom and disrupting to instruction (Algozzine, Christian, Marr, McClanahan & White, 2008).

Students with ADHD have a chronic, long-term disorder and experience symptoms of inattention and impulsivity across settings, though their symptoms may be most apparent at school because of the structure and expectations within that environment (Friend, 2011). These students are also more likely to demonstrate academic problems that significantly impact their success in the classroom (Reid, 1999). Because of the substantial impact of the disorder on educational performance, over 50% of students with ADHD qualify for special education services under IDEA, most frequently under the Other Health Impairment (OHI) category and as a disability under Section 504 (Reid, 1999). Moreover, a substantial number of students with ADHD qualify for services under learning or emotional disabilities (Reid, Maag, Vasa, & Wright, 1994). Children who qualify for services under IDEA are provided with an Individualized Education Program (IEP). The IEP describes the impact of the disorder on the student's performance, the specific learning problems manifested, and how these will be addressed through specially designed instruction and supplementary aids and services to increase access to the general education curriculum (Friend, 2011). Nonetheless, it is important to emphasize that ADHD is not an exclusively special education issue; in fact, most students with ADHD will be educated in the general education setting, making the collaborative involvement of both special and general educators critical (Reid et al., 1994).

For students with ADHD, the classroom setting presents many challenges. Focusing attention and sitting quietly at a desk, skills often linked to academic success, are almost impossible tasks (APA, 2000). Listening to and following directions, recalling and retaining information, and completing assignments are overwhelming experiences for such students, as their minds wander and they become distracted by their attempts to take in the busy classroom around them (Reis, 2002). They frequently absorb only a fraction of the information delivered during instruction (Namahoe, 2016). Moreover, the behaviors associated with ADHD vary with age and change as students grow older (CHADD, 2017). For example, a preschool student may show gross motor over-activity (e.g., endlessly running or climbing and often shifting from one activity to another with little observable direction). Elementary and middle grades students may be fidgety and squirm in their seats or play with their chairs and desks. They frequently are unable to finish their schoolwork or the work they do complete is done carelessly. Adolescents with ADHD are inclined to be more withdrawn and less talkative. They are impulsive, react unexpectedly, neglect to plan, evaluate progress, and shift plans as necessary (CHADD, 2017).

Strategies for Success: Traditional Tools to Promote Attention

In recent years, there have been a number of strategies offered to teachers to help students with ADHD sustain attention in the classroom (US DOE, 2006). A summary listing of environmental, instructional, and organizational tips for students with ADHD is provided in Table 1. Simple environmental strategies include allowing for postures other than sitting. This flexibility might mean allowing the student with ADHD to stand up or squat in his/her chair if it helps with completing assignments. Alternatively, teachers can also permit students to sit on the floor or on a large ball to complete work. A standing desk or unobtrusive stationary exercise bike with a desk attached could also be used. Other modifications to the physical environment could include furnishing two desks facing each other or side-by-side for one student. In this way, the student is able to move freely back and forth or recline between the desks as long as he or she remains on task and in the designated spot. Providing a low-distraction cubicle or quiet area for the student with ADHD to use when overwhelmed may also help when a break from the noise and distraction from classroom activities is needed or when the student is taking a test. In sum, it is critical to understand the struggle a student with ADHD has and provide an ordered, safe, predictable classroom environment (Reid, 1999).

Table 1

Examples of Traditional Tools to Promote Attention and Engagement

Environmental Strategies	Instructional Strategies	Organizational Strategies
Standing desk	Strategic pausing	Assignment notebook
Two desks (e.g., side-by-side)	Proximity control	Color-coded folders
Large ball/floor	Workload reduction	Visual aids
Low-distraction cubicle	Embedded physical movement	Daily activity schedules

Specific tips to guide instruction include strategically pausing before asking questions or asking students who struggle with sustaining attention a question to regain their focus. When talking to a child, teachers can use proximity control and move to where the child is standing or sitting. The teacher's physical proximity to the child can help the student focus and pay attention to what is being said. Another tip is to break longer work assignments into smaller units of less complex tasks. For example, allow students to complete a subset of ten math problems before presenting them with the remaining ten problems. It is also useful to embed physical movement in classroom activities. For instance, taking regular breaks to have all students stand and stretch, run in place, or engage in movement can release energy. If there are signs of increasing stress in a student with hyperactivity, provide an opportunity to deliver an *important note* to another teacher aware of the child's need for movement or choose this child to distribute papers or do other classroom tasks that can help release pent up energy and promote feelings of self-worth. Such strategies can effectively settle students down and encourage concentration on their return (Reid, 1999).

Many students with ADHD are easily distracted and have difficulty with organizational skills to enable their completion of tasks. Require the child with ADHD to maintain an assignment notebook to help organize homework and other seatwork. Color-coded folders to help organize assignments for academic subjects (e.g., reading, mathematics, social studies, and science) can also be used. Visual aids such as banners, charts, lists, pie graphs, and diagrams can be situated throughout the classroom to prompt students regarding the subject material being covered. Daily activity schedules can be taped to desks so there is a predictability to the child's day and known transitions to subsequent tasks. Keeping the classroom generally tidy and teaching a child with ADHD how to prepare an uncluttered workspace (e.g., instructing the child to clear away unnecessary books or other materials) before beginning his or her seatwork goes a long way to facilitating organizational skills (Reid, 1999).

Strategies for Success: Technology-based tools to Promote Attention

While traditional environmental, instructional, and organizational techniques have been particularly helpful for students with attention issues, technology is changing the way our students learn in today's classrooms, with both potential benefits and drawbacks. According to a 2012 study conducted by Pew researchers (Purcell et al.), teachers reported that today's students are more media savvy, but also less literate and more distracted than prior generations. Teachers characterized the impact of today's digital environment on their students' research habits and skills as generally positive, yet multi-layered and not without drawbacks. Specifically, some teachers expressed concern about increasing distractions impacting students and poor time management skills as well as students' potentially diminished capacity for critical thinking, among other issues (Purcell et al., 2012). Therefore, the strategies to address attention challenges in students should account for the evolving role of technology in the classroom. It is important to consider specifically how digital tools can support students with ADHD. Tech devices and apps, when implemented properly, can help diminish issues with focus and assist students in engaging in their work. A summary of tech-driven supports that target the needs of students with ADHD is provided in Table 2.

Table 2

Examples of Technology-Based Tools to Promote Attention and Engagement

Study Skills Apps	Academic/Learning Apps	Organization Apps
Notability	Interactive Whiteboard	Gantt Charts
Accelastudy	ABC Mouse	Studious
Graphing Calculator	Starfall	Choiceworks
World Atlas	Khan Academy	Attention Control

For example, interactive whiteboards deliver visual stimuli, such as color to specifically emphasize key ideas that promote students' attention for longer periods of time (Namahoe, 2016). Younger students can benefit from tools that teach basic academic concepts and skills.

Digital apps earning high ratings include *Starfall*, *Cool Math*, *ABC Mouse*, *Brain Pop* and *Fun Brain* (Herold, 2014). Moreover, adolescent students can benefit from apps that bolster study skills. Some promising apps are *The Chemical Touch*, *World Atlas*, *Graphing Calculator*, and *AccelaStudy* (which is specific to foreign language study). *Gantt Charts*, in which a series of horizontal lines show work done or production completed in a certain amount of time, can be used for mapping out assignments. These charts can help students organize, sequence, and plan homework assignments as well as develop visual learning guides to prepare for tests (Namahoe, 2016). Apps can also assist students with writing tasks, support weak executive function skills, and improve working memory issues. *Notability* is an app that allows users to create notes that integrate handwriting, typing, drawings, audio, and pictures. It takes notes and allows the user to listen to a specific portion of those notes later. This app may be ideal for the older child or adolescent with ADHD in high school. Furthermore, *Khan Academy* is an easily downloadable app that enables users to master academic concepts with the visual step-by-step videos. Users can also pause and resume videos as needed in order to review concepts and information.

As noted, students with ADHD frequently struggle with organization and time management. Several tech tools and apps can assist users with managing tasks and schedules. For example, simple electronic timers and alarms can help students sustain attention to task and appropriately pace themselves through their work. *Easy As This Concentration* is a timer that helps students measure and evaluate how much time they spend in focused versus unfocused activities, ultimately seeing how much study time may be wasted. Students play games to help them improve concentration and identify focus time (i.e., time on task) (Namahoe, 2016). Moreover, *Studios* can help older students with scheduling of homework and exams with an easy-to-use timetable. Younger students can use *Choiceworks*. This app is designed as a learning tool to assist children with completion of daily routines using visual schedules. *Choiceworks* also helps students to understand and regulate their impulses and feelings, and increase their ability to wait (e.g., taking turns and not interrupting), all potential challenges for students with ADHD. Finally, *Attention Control* targets improving concentration through brain-focusing training. This app was developed to teach students how to block out distractions, concentrate for sustained periods of time, and focus on goals, which are all critical skills for success among students with ADHD.

While digital tools can help students stay on task, improve focus, and increase assignment completion, it is important to monitor students to confirm they are actually concentrating and learning from the app or device. There is the possibility that students are using their devices for non-learning related activities. The technology should be enabling students to connect with their lessons, stay organized, and perform academic skills. Moreover, children with ADHD may be particularly disposed to excessive screen time given the stimulating visual graphics, sound effects, action, constant change, immediate feedback, and incentive of video games and other technology tools (Kutscher & Rosin, 2015). Students with ADHD often require frequent and immediate rewards (Reid, 1999) which are needs quickly fed by screen-time activities. Therefore, teachers and parents should supervise and monitor technology access to ensure proper and reasonable use, require tech breaks, and limit exposure as needed.

Conclusion

Both traditional and technology-driven strategies are available to address the attention needs of students with ADHD. However, it should be emphasized that these techniques can be implemented class wide as they embed universal design principles; they are therefore beneficial for *all* students (Friend, 2011). By incorporating targeted environmental, organizational, and instructional techniques into everyday instructional and classroom management practices, teachers will be empowered to improve the sustained attention and academic performance of their students with ADHD. By modeling use of the most up-to-date apps that center on study skills, organization, and engagement, teachers can also attend to the characteristics and needs of their students with ADHD. In doing so, teachers can create an equitable and enhanced learning environment for all students in this age of increasing digitalization.

References

- Algozzine, K., Christian, C., Marr, M., McClanahan, T., & White, R. (2008). Demography of problem behavior in elementary schools. *Exceptionality*, *16*(2), 93-104.
<https://doi.org/10.1080/09362830801981369>
- American Psychiatric Association. (2000). *Diagnostic and Statistical Manual of Mental Disorders* (4th ed). Washington, DC: American Psychiatric Association.
- Centers for Disease Control and Prevention. (2017). *Attention-deficit hyperactivity disorder: Data and statistics*. Retrieved from <https://www.cdc.gov/ncbddd/adhd/data.html>
- CHADD. (2017). *Diagnosing ADHD in adolescence*. Retrieved from <http://www.chadd.org/Understanding-ADHD/For-Parents-Caregivers/Teens/Diagnosing-ADHD-in-Adolescence.aspx>
- Friend, M. P. (2011). *Special education: Contemporary perspectives for school professionals*. Boston: Pearson.
- Herold, B. (2014, October 21). Digital learning games used by majority of teachers, survey finds. In *Education Week*. Retrieved November 29, 2017, from http://blogs.edweek.org/edweek/DigitalEducation/2014/10/digital_learning_games_survey.html
- Kutscher, M. & Rosin, N. (2015). Too much screen time? When your child with ADHD over-connects. Retrieved from http://www.chadd.org/AttentionPDFs/ATTN_06_15_TooMuchScreenTime.pdf
- Namahoe, K. (2016). How students with ADD, ADHD can benefit from technology. *Smartbrief*. Retrieved from: <http://www.smartbrief.com/original/2016/02/how-students-add-adhd-can-benefit-technology>

- Purcell, K., Rainie, L., Heaps, A., Buchanan, J., Friedrich, L., Jacklin, A., Chen, C., & Zickuhr, K. (2012). *How teens do research in the digital world*. Retrieved from Pew Research Centre, http://www.pewinternet.org/~media/Files/Reports/2012/PIP_TeacherSurveyReportWithMethodology110112pdf
- Reid, R. (1999). Attention deficit hyperactivity disorder: Effective methods for the classroom. *Focus on Exceptional Children*, 32(4), 1-20.
- Reid, R., Maag, J. W., Vasa, S. F., & Wright, G. (1994). Who are the children with attention-deficit hyperactivity disorder? A school-based survey. *The Journal of Special Education*, 28(2), 117-137.
- Reis, E. (2002). Attention deficit hyperactivity disorder: Implications for the classroom teacher. *Journal of Instructional Psychology*, 29(3), 175.
- U.S. Department of Education. (2006). *Teaching children with attention deficit hyperactivity disorder: Instructional strategies and practices*. Office of Special Education and Rehabilitative Services, Office of Special Education Programs, Washington, D.C.
- Visser, S. N., Danielson, M. L., Bitsko, R. H., Holbrook, J. R., Kogan, M. D., Ghandour, R. M., Perou, R., & Blumberg, S. J. (2014). Trends in the parent-report of health care provider-diagnosed and medicated Attention-Deficit/Hyperactivity Disorder: United States, 2003–2011. *Journal of the American Academy of Child & Adolescent Psychiatry*, 53(1), 34 - 46.

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