

DIGITAL TECHNOLOGY FOR ADHD CHILDREN

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Abstract

As increasing numbers of children with learning disabilities or attention-deficit/hyperactivity disorder (ADHD) transition to primary education, they encounter a heightened need for proficiency with a wide range of learning technologies. In an era of measurable outcomes, it is critical for primary school personnel to consider effective assessments and relevant interventions when children with cognitive disabilities lack proficiency with these technologies.

Keywords: Children, ADHD, Digital Technology

Introduction

Encouraging children to collaborate can yield dividends. It is generally viewed as a particularly applicable approach adopt in school learning, and there are specific roles ICT can perform to promote collaboration, including the facilitation of scaffolding and the promotion of creative thinking(Wheeler, 2000).

A motivating factor may be that the computer can move the locus of control to the learner, a rare experience for any child in the school environment but probably more so for the child with learning difficulties. The empowering schools strategy gives a clear steer to the relationship which needs to exist between the type of ICT activity that takes place in school, to ensure that young people have the skills needed to be economically active in the global knowledge community, and how well these skills and activities match what employers want. Young children need to be prepared for work in a knowledge economy, developing high - level cognitive skills for Working securely in teams, Self reliance and self management, Collaborative problem –solving, Creativity and innovation, High level reasoning, analysing, conceptualising, Communicating and understanding within multi- cultural environments and Autonomous learning.

Digital Technology

According to Shade (1996) the characteristics of software should be considered choosing appropriate computer programs : software that promotes a child’s own pace, active learning, controlled interaction, possible experimentation, initiative in ceasing the program, ability to operate from a picture menu, and

independent use of the computer. Digital describes electronic technology that generates, stores, and processes data in the form of information or concepts. Programming is a core element of the Digital Technologies curriculum because it helps students develop essential skills such as problem-solving, logic and critical thinking.

ADHD

Attention Deficit Hyperactivity Disorder have an early onset, either in childhood (below five years) or early adolescence. It is typically characterized by a short attention span, over activity and impulsivity.

Despite of assess utilized, these children represent a large percentage of the student population and are importantly among those whose behaviour teachers explain as difficult in the classroom and distracting to instruction (Algozzine, Christian, Marr, McClanahan & White, 2008). For students with ADHD, the classroom environment presents many challenges. Focusing attention and session quietly at a desk, skills repeatedly linked to academic success, are almost impossible tasks (APA, 2000). Listening to and subsequent 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 get in the busy classroom about them (Reis, 2002). They frequently understand only a part of the information delivered during instruction (Namahoe, 2016). Moreover, the behaviours 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). Primary and Upper primary students may be nervous and struggle 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, retort unpredictably, avoid to plan, evaluate progress, and shift plans as necessary (CHADD, 2017).

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.

Technology helps in the academics of ADHD Children

Technology can be an advantage for children and adults with ADHD. ADHD generally effort with time management, organization, completing tasks, and failure to pay attention to details. This can make it complicated to stay on task in a school or work environment. Apps and computer programs can help children with ADHD stay organized, reach goals, and struggle the carry to submit towards distraction. For children, electronic timers can help students stay on task and speed themselves as they work. In addition, technology use in the classroom helps reduce distraction in some instances. For example, third and fourth-grade students with ADHD found that computer-assisted instruction in math resulted in improved math performance and increased on-task behaviour. Alerts on phones or computers can help adults get to meetings on time or modify mechanism while essential. Using an alert to shape out precise periods of time to attend to email, for example, helps adults avoid hyper-focusing on one specific task. Used accurately, digital tools can help children with ADHD improve focus, increase efficiency, and remember to turn their work in on time.

The role of Digital devices in the academics of children with ADHD

These devices help children with ADHD who struggle with computing, aligning, and copying math problems on paper.

Electronic math table software enables students to systematize and work through problems on a computer screen. Figures that come into view onscreen can be read aloud by a speech synthesizer.

Talking calculators have a integral speech synthesizer that reads aloud each number, symbol, or operation key a student presses, as well as the answer. The auditory feedback lets a student with ADHD know whether

he pressed the right keys and verifies the answer before he transfers it to paper. If child struggles with reading, the tools below may improve reading comprehension and fluency.

Audio books and reading software allow users to listen to text, and they are available in a multiplicity of formats: audio-cassette, CD, and MP3 download. Extraordinary playback units permit users to search and bookmark pages and chapters. 3000 improves reading speed and understanding by enabling a student to convert print to electronic text. This program includes both visual and auditory feedback to help a student with ADHD understand and maintain what he is reading.

Optical character recognition (OCR) programs permit a student to scan printed material into a computer or handheld unit. The scanned text is then read clearly by a speech synthesis/screen reading system. OCR is available in separate units, as software, and as portable, pocket-sized devices that display words on an easy-to-read screen. Scanning pens are ideal for library research and other reading that doesn't involve a computer. This device scans text as it's dragged the length of the page. The pen displays the words on an easy-to-read screen, speaks them aloud, and provides definitions.

Speech synthesizers/screen reader systems can display and read audibly text on a computer screen, including text that has been typed by a student, scanned in from printed pages (books, letters), or material from the Internet.

Convenient word processors are lightweight devices that look like a computer keyboard with a screen. They are helpful to children with ADHD who have problem with handwriting. These battery powered machines survive get to school for note-taking and writing assignments. At house, records preserve be transferred to a PC. Some convenient word processors come pre-loaded with word guess and text-to-speech software.

Speech-recognition programs permit a student to read loudly into a microphone and see his words show on a computer screen. The software is chiefly accommodating for students whose oral language skills are better to their writing skills.

Word-prediction software "predicts" the word the user intends to type, increasing his words and improving written appearance. These programs are able to help students with ADHD in producing grammatically correct and topic-specific sentences and paragraphs on a word processor.

Technology inhibits academics of ADHD children

With technology use on the rise both in the classroom and for personal use, it's natural to wonder whether or not digital tools are a distraction for a person with ADHD. To prevent technology from taking over one's life, it is important to delegate media-free times (meals and celebrations) and media-free zones

(bedrooms, outdoor spaces, etc.) to set limits on media use. Children with ADHD are able to use software and apps to programme times to have tablets and other devices lock automatically and use the “do not disturb” function to keep away from interruptions during media-free times.

Conclusion

Technology use requires balance and self-monitoring. It can be valuable to develop the accessible software to help increase productivity, but also to help decrease distraction and hyper-focus. Finally e-schooling requires an explicit recognition about values associated with the use of ICT, in this case, that every child, irrespective of need, should be able to reap the benefits of digital technology.

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