

The background features a dark blue gradient with various circular and semi-circular patterns. On the left side, there is a large, semi-transparent scale with numerical markings from 140 to 260. The scale has tick marks and some numbers are highlighted in a lighter shade. There are also several circular diagrams with arrows and dashed lines, suggesting a technical or scientific theme.

THE USE OF TECHNOLOGY FOR STUDENTS WITH AUTISM

AMANDA TORRES

TABLE OF CONTENTS

- Overview
- Types of Technology
- Advantages
- Disadvantages
- Ways to use technology
- Resources and References

ACCORDING TO THE NATIONAL ASSOCIATION OF SPECIAL EDUCATION TEACHERS (NASET), THE USE OF TECHNOLOGY DEVICES CAN BE BENEFICIAL BECAUSE IT HAS BEEN FOUND THAT STUDENTS WITH AUTISM TYPICALLY PROCESS VISUAL INFORMATION EASIER THAN AUDITORY INFORMATION. TECHNOLOGY CAN BE BENEFICIAL IN ASSISTING STUDENTS WITH AUTISM IN:

- Expressive communication skills
- Social interaction skills
- Attention Skills
- Motivation skills
- Organizational skills
- Academic skills
- Self-management skills
- Overall independent daily functioning skills

EXPRESSIVE COMMUNICATION SKILLS

- This is the most common use of technology for students with autism. It can range from pictures used to represent items to apps that will speak for the student.

SOCIAL INTERACTION SKILLS

- A lack of social skills can lead to social isolation. Social skills that can be lacking include: turn taking and looking at a person while they are speaking.

ATTENTION SKILLS

- Graphics and pictures can capture and maintain attention to tasks.

MOTIVATION SKILLS

- Technology can help with motivation skills. The use of technology as a reward has shown to be beneficial.

ORGANIZATIONAL SKILLS

- From visual schedules to apps that can assist with organization, there are numerous ways to use technology to assist with organizational skills.

ACADEMIC SKILLS

- Numerous technologies are available to assist with academic functioning that can work in various academic settings.

SELF-MANAGEMENT SKILLS

- As students grow older, the need for self-management skills increases.

OVERALL INDEPENDENT DAILY FUNCTIONING SKILLS

- Various types of technology can be used to work on daily functioning skills with an emphasis on increasing independence.

TYPES OF TECHNOLOGY

- Low-Technology
 - Visual support strategies which do not involve any type of electronic or battery-operated device – typically low cost, and easy to use equipment. Examples include:
 - Dry erase boards
 - Clipboards
 - 3-ring binders
 - Manila file folders
 - Photo albums
 - Laminated PCS/photography
 - Highlight tape

TYPES OF TECHNOLOGY

- Mid Technology
 - Battery operated devices or "simple electronic devices requiring limited advancements in technology. Examples include:
 - Tape recorder
 - Language master
 - Overhead projector
 - Timers
 - Calculators
 - Simple voice output devices

TYPES OF TECHNOLOGY

- High Technology
 - Complex technological support strategies – typically "high" cost equipment. Examples include:
 - Video cameras
 - Computers and adaptive hardware
 - Complex voice output devices

ADVANTAGES

- Reinforce speech and language
- Improve visual, fine motor, and life skills
- Encourages visual learning

REINFORCE SPEECH AND LANGUAGE

- Low technology systems such as Picture Exchange Communication Systems (PECS) is a way to facilitate communication. Augmentative and Alternative Communication (AAC) devices are available throughout the range of technologies and can be individualized to the person.

IMPROVE VISUAL, FINE MOTOR AND SOCIAL SKILLS

- There is access to a variety of technology available that increases visual and fine motor skills that all students enjoy, however there has also been an influx of apps that have been seen that focus on students with autism and can be individualized for their needs.

ENCOURAGE VISUAL LEARNING

- Most students with autism are said to be visual learners meaning that tech choices can enhance that type of learning.

DISADVANTAGES

- Impairs social skills
- Increases anxiety
- Addiction and sleep disorders

IMPAIRS SOCIAL SKILLS

- While technology can demonstrate social skills, it is not a replacement for actual human conversation. Using technology, social cues and tone of voice can be missed.

INCREASES ANXIETY

- Screen time has shown an associated with an increased risk for obsessive compulsive disorders as well as social anxiety.

ADDICTION AND SLEEP DISORDERS

- Children with autism have been shown to start an addiction to technology with smaller amounts of exposure than a neuro-typical child.
- Screen time can suppress melatonin which can disrupt sleep.

IMPLEMENTATION OF TECHNOLOGY

- School

- Communication between school and home is key
- Authentic opportunities to practice

- Home

- Consistent use of technology
- Start with the lowest-tech option available

RESOURCES AND REFERENCES

- *Assistive technology for students with autism spectrum disorders - NASET*. (n.d.). Retrieved April 8, 2023, from https://www.naset.org/fileadmin/user_upload/Autism_Series/Assist_tech/AssistiveTech_for_Students_W_Autism.pdf
- *Autism and technology: How digital devices help children · thread learning*. Thread Learning. (2019, December 2). Retrieved April 7, 2023, from <https://www.threadlearning.com/blog/autism-and-technology-how-digital-devices-help-children/>
- *Educational technology trends for children with autism spectrum disorder*. (n.d.). Retrieved April 8, 2023, from <https://files.eric.ed.gov/fulltext/EJ1337780.pdf>
- Kay, H. (2022, May 2). *Autism corner: Self-management for students with ASD*. PediaStaff. Retrieved April 7, 2023, from <https://www.pediastaff.com/blog/slp/self-management-for-students-with-autism-spectrum-disorders-2-copy-96764>
- Meghan Bogardus Cortez Twitter Meghan is an associate editor with EdTech. She enjoys coffee, cats and science fiction T. V. (2022, April 18). *3 ways assistive technology can help students with autism*. Technology Solutions That Drive Education. Retrieved April 7, 2023, from <https://edtechmagazine.com/k12/article/2016/08/3-ways-technology-can-help-students-autism>
- *Non-speaking autism: Improving communication skills*. Behavioral Innovations - ABA Therapy for Kids with Autism. (2023, January 5). Retrieved April 7, 2023, from <https://behavioral-innovations.com/blog/non-speaking-autism-improve-communication-skills-children-asd/>
- Resources, H. (2017, September 22). *Technology and autism: The good and bad*. Eden II Programs. Retrieved April 7, 2023, from <https://eden2.org/blog/technology-and-autism-the-good-and-bad/>
- Schorr, B. (2020, August 18). *How technology can help children with autism* -. Hidden Talents ABA. Retrieved April 7, 2023, from https://hiddentalentsaba.com/how-does-technology-help-autism/#Technology_that_can_help_autistic_children_with_Motivation
- Therpathways. (2021, January 21). *What tech can help kids with ASD?* Therapeutic Pathways. Retrieved April 7, 2023, from <https://www.tpathways.org/faqs/how-can-i-use-technology-to-help-my-child-with-asd/>