Technology-Aided Instruction and Intervention
Fact Sheet

Brief Description

Technology-aided instruction and intervention (TAII) are those in which technology is the central feature of an intervention that supports the goal or outcome for the student. Technology is defined as "any electronic item/equipment/application/or virtual network that is used intentionally to increase/maintain, and/or improve daily living, work/productivity, and recreation/leisure capabilities of adolescents with autism spectrum disorders" (Odom, Thompson, et al., 2013). TAII incorporates a broad range of devices, such as speech-generating devices, smart phones, tables, computed-assisted instructional programs, and virtual networks. The common features of these interventions are the technology itself (as noted) and instructional procedures for learning to use the technology or supporting its use in appropriate contexts.

Qualifying Evidence

TAII meets evidence-based criteria with 9 group design and 11 single case design studies.

Ages

According to the evidence-based studies, this intervention has been effective for preschoolers (3-5 years) to young adults (19-22 years) with ASD.

Outcomes

TAII can be used effectively to address social, communication, behavior, joint attention, cognitive, school-readiness, academic, motor, adaptive, and vocational skills.

Research Studies Poviding Evidence

Beaumont, R., & Sofronoff, K. (2008). A multi component social skills intervention for children with Asperger syndrome: The Junior Detective Training Program. *Journal of Child Psychology and Psychiatry*, *49*(7), 743-753. doi: 10.1111/j.1469-7610.2008.01920.x

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Cihak, D. F., Wright, R., & Ayres, K. M. (2010). Use of self-modeling static-picture prompts via a handheld computer to facilitate self-monitoring in the general education classroom. *Education and Training in Developmental Disabilities*, *45*(1), 136-149.

Faja, S., Aylward, E., Bernier, R., & Dawson, G. (2007). Becoming a face expert: A computerized face-training program for high-functioning individuals with autism spectrum disorders. *Developmental Neuropsychology*, *33*(1), 1-24. doi: 10.1080/87565640701729573

Golan, O., Ashwin, E., Granader, Y., McClintock, S., Day, K., Leggett, V., & Baron-Cohen, S. (2010). Enhancing emotion recognition in children with autism spectrum conditions: An intervention using animated vehicles with real emotional faces. *Journal of Autism and Developmental Disorders*, *40*(3), 269-279. doi: 10.1007/s10803-009-0862-9

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Kagohara, D. M., van der Meer, L., Achmadi, D., Green, V. A., O'Reilly, M. F., Mulloy, A., ... & Sigafoos, J. (2010). Behavioral intervention promotes successful use of an iPod-based communication device by an adolescent with autism. *Clinical Case Studies*, *9*(5), 328-338. doi: 10.1177/1534650110379633

Kodak, T., Fisher, W. W., Clements, A., & Bouxsein, K. J. (2011). Effects of computer-assisted instruction on correct responding and procedural integrity during early intensive behavioral intervention. *Research in Autism Spectrum Disorders*, *5*(1), 640-647.

Mechling, L. C., Gast, D. L., & Cronin, B. A. (2006). The effects of presenting high-preference items, paired with choice, via computer-based video programming on task completion of students with autism. *Focus on Autism and Other Developmental Disabilities*, *21*(1), 7-13. doi: 10.1177/10883576060210010201

Mechling, L. C., Gast, D. L., & Seid, N. H. (2009). Using a personal digital assistant to increase independent task completion by students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *39*(10), 1420-1434. doi: 10.1007/s10803-009-0761-0

Mechling, L. C., & Savidge, E. J. (2011). Using a personal digital assistant to increase completion of novel tasks and independent transitioning by students with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, *41*(6), 687-704. doi: 10.1007/s10803-010-1088-6

Mineo, B. A., Ziegler, W., Gill, S., & Salkin, D. (2009). Engagement with electronic screen media among students with autism spectrum disorders. *Journal of Autism and Developmental Disorders*, *39*(1), 172-187. doi: 10.1007/s10803-008-0616-0

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TECHNOLOGY-AIDED INSTRUCTION AND INTERVENTION FACT SHEET—SUGGESTED CITATION