

Multimedia Interventions

This is an alternate version of the characteristics overview chart on the next page. It is provided for accessibility.

Verbal skills

- Nonverbal
- Mixed
- Verbal

Grade Level

- PK
- Elementary
- Middle/High


Cognitive Level

- Classic
- High Functioning

Areas Addressed

- (Pre)Academic/Cognitive/Academic
- Adaptive Behavior/Daily Living
- Behavior
- Communication/Speech
- Social/Emotional

Multimedia Interventions

	Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
	<input checked="" type="checkbox"/> Nonverbal	<input checked="" type="checkbox"/> PK	<input checked="" type="checkbox"/> Classic	<input checked="" type="checkbox"/> (Pre)Academic/ Cognitive/Academic
	<input checked="" type="checkbox"/> Mixed	<input checked="" type="checkbox"/> Elementary	<input checked="" type="checkbox"/> High	<input checked="" type="checkbox"/> Adaptive Behavior/ Daily Living
	<input checked="" type="checkbox"/> Verbal	<input checked="" type="checkbox"/> Middle/High	Functioning	<input checked="" type="checkbox"/> Behavior <input checked="" type="checkbox"/> Communication/Speech <input checked="" type="checkbox"/> Social/Emotional



Brief Introduction

An increasing number of studies have shown that the use of computer instruction for students with autism (AU) can produce a variety of positive developments, particularly in communication and socialization.



Description

Multimedia programs, including software programs such as the Cambridge Mindreading Face-Voice Battery for Children, allow users to improve their ability to identify the facial expressions and emotions of others. In one case study, the use of a personal digital assistant (PDA) improved a student's ability to record homework more successfully. Reasons for the effectiveness of multimedia programs for students with AU include (a) they provide predictability, (b) they offer repeated practice, and (c) they are considered to be highly motivating for students with AU.



Research Table

# of Studies	Ages (years)	Sample Size	Area(s) Addressed	Outcome
9	3-21	59	Virtual reality, PDAs, computer software, mindreading, emotion recognition, symbolic play, language development, spelling	+



Studies Cited in the Research Table

1. Herrera, G., Alcántud, F., Jordan, R., Blanquer, A., Labajo, G., & De Pablo, C. (2008). Development of symbolic play through the use of virtual reality tools in children with autistic spectrum disorders: Two case studies. *Autism, 12*, 143-157.
Two participants, ages 8 and 15, were allowed to use virtual reality software in an effort to improve their functional and symbolic use of objects as well as understanding of imagination. Both participants showed positive results for each of these areas.
2. LaCava, P., Golan, O., Baron-Cohen, S., & Myles, B. S. (2007). Using technology to teach emotion recognition to students with Asperger Syndrome: A pilot study. *Remedial and Special Education, 28*, 174-182.
Eight children with AS, 8-11 years old, used Mind Reading software for 10 weeks. At the end of the trial period, all had made significant progress recognizing the feelings and emotions of others.
3. Myles, B.S., Ferguson, H., & Hagiwara, T. (2007). Using a personal digital assistant to improve the recording of homework assignments by an adolescent with Asperger Syndrome. *Focus on Autism and Other Developmental Disabilities, 22*, 96-99.
One 17-year-old student participated in this study to determine whether the use of a PDA would increase his ability to accurately record homework assignments. Over 25 sessions, results showed an increase in independent recording of homework assignments using the PDA.
4. Gnanathusharan, R., & Mitchell, P. (2006). Text chat as a tool for referential questioning in Asperger Syndrome. *Journal of Speech, Language, and Hearing Research, 49*, 102-112.
Eleven individuals with AS ranging in age from 14-19 (3 were adult) were tested on their ability to follow directions geographically using telephones to text or talk to someone. They were given three one-hour lessons. Results showed that talking on the telephone was more effective than texting.
5. Hetzroni, O. E., & Shalem, U. (2005). From logos to orthographic symbols: A multilevel fading computer program for teaching nonverbal children with autism. *Focus on Autism and Other Developmental Disabilities, 20*, 201-212.
The study investigated the use of a computer-based intervention for teaching orthographic symbols to children with AU. Six children were taught to identify words from commercial logos depicting food items through a structured seven-step fading procedure. The acquired knowledge was then tested for generalization into the classroom. Results indicated that after exposure to the fading procedure, all children were able to identify the orthographic symbols and maintain the knowledge over time. Further, most of the children were able to transfer the knowledge and generalize to daily activities within the classroom.
6. Hetzroni, O., & Tannous, J. (2004). Effects of a computer-based intervention program on the communicative functions of children with autism. *Journal of Autism and Developmental Disorders, 34*, 95-115.
In this study, five children with AU, ages 7-15, used computer-based language development programs in an effort to stimulate relevant language and the use of complete sentences and to reduce the number of echolalic responses. Over 23 sessions, all participants showed positive results.
7. Kimball, J.W., Kinney, E. M., Taylor, B.A., & Stromer, R. (2004). Video enhanced activity schedules for children with autism: A promising package for teaching social skills. *Education and Treatment of Children, 27*, 280-298.
This study overviewed a case study of a preschool student with AU who was successfully taught to use mul-

timedia activity schedules to initiate play with peers.

8. Silver, M., & Oakes, P. (2003). Evaluation of a new computer intervention to teach people with autism or Asperger Syndrome to recognize and predict emotions in others. *Autism, 5*, 299-318.
Twenty-two children, ages 10 to 18, with AU or Asperger Syndrome participated in a study using computers to improve their ability to recognize the emotions and facial expressions of others. The group that used computers for 10 thirty-minute sessions during the two-week period made significant progress compared to the group that did not.
9. Hagiwara, T., & Myles, B. S. (1999). A multimedia social story intervention: Teaching skills to children with autism. *Focus on Autism and Other Developmental Disabilities, 14*, 82-95.
Three male students (aged 7-9 years) with AU participated in the study. Social Stories™ were used in a computer-based format for improving social or behavioral problems identified in participants. The intervention increased the skill levels of some of the participants in certain settings.



References

- Gnanathusharan, R., & Mitchell, P. (2006). Text chat as a tool for referential questioning in Asperger Syndrome. *Journal of Speech, Language, and Hearing Research, 49*, 102-112.
- Hagiwara, T., & Myles, B. S. (1999). A multimedia social story intervention: Teaching skills to children with autism. *Focus on Autism and Other Developmental Disabilities, 14*, 82-95.
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Resources and Materials

- Transported to a World of Emotions: www.iancommunity.org/cs/therapies_treatments/transporters_article
This links the user to an article that discusses the making of the animated film series *The Transporters*.
- Using Video and Multimedia technology to Teach Children with Autism: www.asa.confex.com/asa/2006/tech-program/S1726.htm
This links to the outline of a presentation by Amanda Boutot at ASA in July 2006.