A Research Approach to AAC Solutions for Individuals with Autism

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GA Tools for Life

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This Session is being Recorded

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Credits

- **CEUs** are approved for .10 clock hours and are administered through Georgia Tech Professional Education
- **CRCs** are approved for 1.0 clock hours and are administered through the Commission on Rehabilitation Counselor Certification
  - To receive your verification form, send an e-mail with the webinar title and date and type of credit request you need to [Liz.Persaud@gatfl.gatech.edu](mailto:Liz.Persaud@gatfl.gatech.edu)
Webinar Evaluation

At the end of today’s webinar, we ask that you please take a moment to complete our survey:

https://www.research.net/s/TFLwebinar
Join us for Upcoming Webinars!

Using Vizzle To Create Accessible Learning Environments
October 9, 2014
Anthony Gerke, Vizzle

AT and Transition
October 23, 2014
Carson Cochran and Sally Kemph, GPAT

Visit www.gatfl.org for the full schedule.
Sign up on the TFL mailing list to receive our email announcements or send an email to Liz - liz.persaud@gatfl.gatech.edu
Join us for Upcoming AT Events!

GATE Seminar
Dec. 5, 2014
GA Tech Student Center, Atlanta, GA

IDEAS Conference
June 1-5, 2015
Epworth by the Sea, St. Simons Island, GA

Visit www.gatfl.org for the full schedule.
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Welcome to Tools for Life

Tools for Life, Georgia’s Assistive Technology Act Program, is dedicated to increasing access to and acquisition of assistive technology (AT) devices and services for individuals of all ages and disabilities so they can live, learn, work, and play independently and with greater freedom in communities of their choice.

Tools for Life and the TFL Network work collaboratively together to accomplish our mission through:

- AT Demonstration
- AT Evaluations and Assessments
- AT Funding Options & Education
- Access to the TFL AT Lending Libraries
- AT & Durable Medical Equipment Reuse
- AT Training (Individual)
- AT Training (Groups)

Please take our survey to help us gather information that will help better serve the community. The survey can be found at: TFL Survey

WEBINARS

- AUG 14: The Impact of iPads Upon Student Led IEPs
- AUG 29: Support for Your AT Consideration Process
- SEP 10: Getting and Using Accessible Instructional Materials (AIMS): What You Need to Know
Tools for Life Network

- AT Lending Library
- AT Evaluations & Training
- AT Demos
- Resource and Assistance
- AT Funding Assistance
- DME Reuse
Communication for Individuals with Autism
Communication and Autism

- Research findings
- Speech segmentation
- Experiential vs. syntactical approach to language
- Facilitated communication and supported typing
- Repeating words & phrases
- Pragmatics & Hyper-Literalism
- Visual Support & modeling
Expressive and Receptive Language

Receptive language is being received, how is it being processed?

Does a lack of Expressive language indicate that the individual has nothing to say?
“Children with autism have difficulty processing simultaneous input from audio and visual channels. That is, they have trouble integrating simultaneous information from their eyes and their ears,” Stephen Camarata, Ph.D.

http://news.vanderbilt.edu/2013/04/autism-robot-helps-children/
“One of the classic pictures of children with autism is they have their hands over their ears. We believe that one reason for this may be that they are trying to compensate for their changes in sensory function by simply looking at one sense at a time. This may be a strategy to minimize the confusion between the senses.” Mark Wallace, Ph.D., director of the Vanderbilt Brain Institute.

http://news.vanderbilt.edu/2013/04/autism-robot-helps-children/
Prizant (1983)

“Individuals with autism have trouble segmenting incoming speech into meaningful word units.”

“...one word runs into the next seamlessly; there are no little silences between spoken words the way there are white spaces between written words. We simply hallucinate word boundaries when we reach the end of a stretch of sound that matches some entry in our mental dictionary.”

What is LAMP?

• Language Acquisition through Motor Planning (LAMP) is a therapeutic approach based on neurological and motor learning principles.

• LAMP focuses on giving the individual independent access to vocabulary on voice output AAC devices that use consistent motor plans for accessing vocabulary.

• The goal is to give individuals who are nonverbal or have limited verbal abilities a method of independently and spontaneously expressing themselves in any setting.
Language Acquisition through Motor Planning (LAMP)
LAMP

- **Readiness to learn:** The individual is in a state to receive optimal benefit from the learning experience. Their arousal level is conducive for participation and learning from an activity.

- **Joint Engagement:** The individual will follow or direct the attention of another person to an event or object in order to share interest in the event or object.

- **Consistent and Unique Motor Patterns:** The individual learns individual motor patterns for each word, similar to how those who are verbal have an individual motor pattern made with their mouth for each word spoken, allowing the non-verbal individual to develop automaticity.

- **Auditory Signals:** When the individual has accessed the device and carried out a motor pattern for a word, they will get auditory feedback of that word.

- **Natural Consequences:** The individual should have a natural consequence to the attempt to communicate. This should be visual, social and auditory. Meaning is attached to words by what occurs when they are used.

LAMP: Words for Life

- LAMP: Words for Life is designed to meet the communication needs of children with autism.
- Created to be used in conjunction with Language Acquisition through Motor Planning (LAMP), a proven-therapeutic approach that uses consistent motor plans for accessing vocabulary.
- Price now $299
Avaz for Autism (AAC)

- 24 location max
- SymbolStix (default)
- Scrolling possible
- Side navigation remain constant
- Intuitive editing and creating
- Keyboard with picture/word prediction
- Pro version price now $149.99
Research: Visual Screen Displays

• “A visual screen display (VSD) is a picture, photograph, or virtual environment that depicts and represents a situation, place or experience. Individual elements such as people, actions and objects appear within the visual scene.” (Blackstone, 2004)

• VSDs enhance communication on:
  • low-tech boards
  • high-tech devices
Research: Visual Screen Displays

• “(VSDs) are meant primarily to address the need of beginning communicators and individuals with significant cognitive and/or linguistic limitations. These groups are unserved or underserved by current AAC technologies. “(Blackstone, 2004)

• Experiential vs. syntactical approach to language

AutisMate

- A comprehensive communication and behavior tool, with Visual Scene Displays, choice boards and symbol-based grid AAC set. Other visual tools to support behavior and social skills are also included. It is designed for the iPad.
- Access to SymbolStix library, and easily add your own photos and videos.
- Video modeling, visual schedules, visual stories and other behavioral tools are included within the app.
- Personalization and customization is quick and easy.
- A LITE version is available to try the app out.
- Share all content via email from within the app.
- Price now $79.99
Scene & Heard supports communication and learning through the use of Visual Scene Displays, and is designed for iPad and iPod touch.

- SymbolStix (default)
- Make scenes using your own photos, and also access Widgit symbols.
- A free LITE version is available to try the app out.
- Record your own voice messages for scenes.
- Switch Accessible (use with switch interfaces such as Applicator, Switchbox and Switch2Scan).
- Link hotspots on page to photos and videos.
- Price now $49.95
Facilitated Communication and Supported Typing

- Facilitated communication is a technique by which a “facilitator” provides physical and other supports in an attempt to assist a person with a significant communication disability to point to pictures, objects, printed letters and words, or to a keyboard.
- It is the position of the American Speech-Language-Hearing Association (ASHA) that the scientific validity and reliability of facilitated communication have not been demonstrated to date.
  - ASHA Position Statement
- This method involves a communication partner who may provide emotional encouragement, communication supports and a variety of physical supports.
- The facilitator should never move or lead the person
  - Syracuse Univ. School of Ed
- See more at:
  [http://www.asha.org/policy/PS199500089.htm#sthash.jeV8cVb1.dpuf](http://www.asha.org/policy/PS199500089.htm#sthash.jeV8cVb1.dpuf)
Repeating Words or Phrases

- Brain’s “language center” has difficulty coming up with language on its own
- Copies what it hears from the world around it
- Uses it in place of original words and sentences of its own
- Can interfere with learning, social interaction
- SLPs help students with HFA move to more creative, acceptable language
- Visual supports
Pragmatics

- Unable to distinguish between the central meaning of an event and the extra information that surrounds it
- More likely to focus on a minute detail of a particular picture, rather than grasp the actual meaning or story behind the picture
- Difficulty with generalization
- Need for predictability
- Support
Visual Support

Social Stories & Scripts:
• social narratives that provide direct instruction for social situations
• providing a visual cue and desired social responses
• teach routines, help a student deal with uncertainty, introduce change in routine, or address a wide variety of interfering behaviors, including aggression, fear and obsessions.
Social Stories & Behavioral Scripts

• Social narratives that provide direct instruction for social situations

• Teach routines, help a student deal with uncertainty, introduce change in routine, or address a wide variety of interfering behaviors, including aggression, fear and obsessions.
Tools for Creating Behavioral Scripts

PC - Based

- PowerPoint
- BoardMaker (BMstudio templates)
- Classroom Suite
- DT Trainer

Web delivered

- Vizzle
- Comic Life

Apps

- Pictello
- WordToob
Hyper-Literalism

- People with autism think in black and white and therefore interpret everything literally. Ordinary people seem to love using idioms, metaphors and figurative speech, whether to aid communication or simply to make life more interesting, whereas for persons with autism they simply make no sense. (Alison George, “Mapping the language minefield for kids with autism” New Scientist, April, 2012)
- Literal thinking does not go away. It just means one learns, on a case by case basis, to avoid the usual traps.
Idioms

• Tool for learning idiomatic expressions
• A context for using idioms in everyday English conversation.
• 700 common idiomatic expressions
• Additional 600 idioms with meanings & explanations
EF Research

L. Erik von Hahn, & Bernadette Murphy Bentley (2013)

“Executive functioning is not the “what” of knowledge—it does not refer to what knowledge children need to clean their room, or play pirate ships. Instead, executive functioning is the “how” of knowledge. It refers to the brain functions dedicated to how a child cleans his room or plays pirate. “

“To understand why children with ASDs and other disabilities fail to complete tasks of the daily routine—or why they do not engage in play behaviors successfully—it is helpful to think about the brain functions that are dedicated to sequencing steps logically and to reaching goals.”

Video Modeling Research

Jennifer B. Ganz, Theresa L. Earles-Vollrath & Katherine E. Cook (2011)

“Visually based interventions such as video modeling have been demonstrated to be effective with students with autism spectrum disorder. This approach has wide utility, is appropriate for use with students of a range of ages and abilities, promotes independent functioning, and can be used to address numerous learner objectives, including behavioral, self-help, communication, and social objectives.”

WordToob

- Video Modeling made simple and fun! WordToob is designed to make learning words and new skills fun and engaging through pre-stored and customized videos.
- Pre-stored board with the 25 words most 2-year-olds know
- Pre-stored board with common emotions
- Pre-stored examples of an alphabet board and adaptive skill board
- Infinite ability to create your own boards
- Speech recognition so that the learner can practice saying words
Guest Speaker: Eren

- Eren Niederhoffer: erenkn715@gmail.com
Our Question to You:
What have You Learned today?
Webinar Evaluation

Please take a moment to complete our survey:

https://www.research.net/s/TFLwebinar
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