

# Alternative Augmentative Communication

American Sign Language

# Autism Spectrum Disorder

- A variable neuro-developmental disorder with impairments in communication, social interaction, and restrictive and repetitive behaviors.
- Symptoms begin about the age of 6 months and become more prominent and established by age 3.

*American Psychological Association 2000*

# Correlations Between Autism and Deafness

## Autism Spectrum Disorder

- Neural
- Developmental
- Communication
- Social Interaction\*
- Restricted and Repetitive Behavior

Onset: Unknown with evidence by age 6 months with prominence and final diagnosis by age 3

## Deafness

- Neural and/or Mechanical
- Developmental
- Communication
- Social Interaction\*
- Restricted and Repetitive Behavior

Onset: Congenital or Unknown with evidence by 6 months with prominence by age 2 and final diagnosis can be as late as age 4.

# Theory of Mind

- Recent studies indicate these two populations conceptualize thoughts as pictures, and find it easier to construe hidden emotions rather than false beliefs in pictorial terms leading to a correlation in their understanding of theory of mind.

*-Peterson, Wellman, & Liu 2005*

# What does this mean?



- When it comes down to it, these children have no understanding of the world (people) around them nor how they are to relate to it.
- It becomes necessary for the parent, teacher, or caregiver to build a bridge to access communication as soon as possible.



# Why is this important?

Theory of mind is the ability to attribute belief, intent, desire, knowledge, etc to oneself and to others and to understand others belief, intent, desire and knowledge etc may be different than our own.

It is crucial for successful social contact and interaction.

# Connection Evaluation

- The study also indicated children with autism and deaf children born to hearing parents followed the same sequence steps to a point, but the children with autism showed a marked difference in sequence of understandings (in the latter steps of progression) relative to the other groups.
- In contrast to prior studies, this illustrates individuals with autism may have a distinctive autism-specific difficulty with the sort of mental state understanding needed for false belief tasks

*-Peterson, Wellman, & Liu 2005*



Why deaf children  
of hearing parents?



What about all  
deaf children?



What does this  
mean for children  
with autism?



# Language Connection

In a study of deaf children on language and theory of mind, deaf children born to deaf parents and/or taught sign by caregivers (native signers) were shown to develop alongside their hearing peers with some developing earlier.

Deaf children of hearing parents were found to be equally delayed in verbal tasks that required minimal language.

# Language Connection

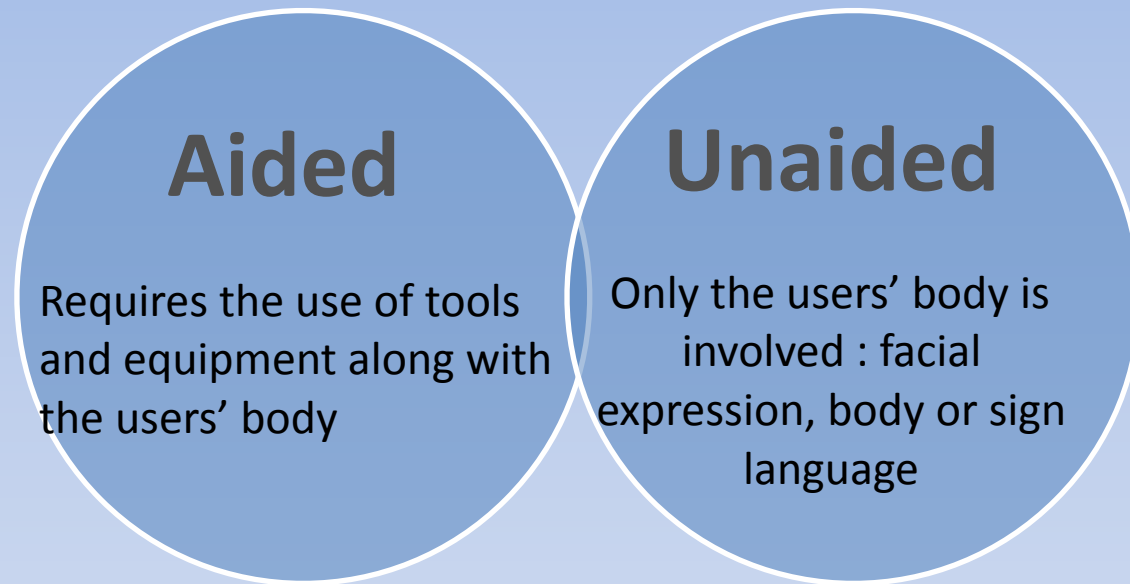
If a deaf child lives in a socially and cognitively nourishing environment theory of mind should develop on a normal timetable even if language were deficient. Thereby theory of mind maybe related to language skill.

*-Schick, deVilliers, deVillers, & Hoffmiester 2007*

# Alternative Augmentative Communication (AAC)

- The American Speech and Language Association defines AAC as including all forms of communication (except oral speech) that are used to express thoughts, needs, wants, and ideas.
- We all use AAC when we make facial expressions or gestures, use symbols or pictures, or when we write.

People with severe speech or language difficulties use AAC to supplement existing speech, or to replace speech that is not functioning.



The two most important values expressed by people who use AAC is saying exactly what they want as fast as they can say it.

*-[www.aacoinstitute.org](http://www.aacoinstitute.org)*

# Why use American Sign Language (ASL)?

- It is natural and the preferred language of the Deaf community in the United States of America and parts of Canada.
- Gestural, spatial, and iconic its characteristics: hand shape, location, orientation, and movement allow the child with autism a mode of communication and language that is formulated to their natural thought process.

# Why use American Sign Language (ASL)?

- Their frustration from not being able to express themselves can be eased.
- A reduction in negative social behaviors such as temper tantrums and self injury.
- The child can begin to express knowledge in ways never afforded them before
- Stimulation of speech and language development and the development of cognitive structures.

# Verbal Behavior: Teaching Children with Autism: Max



# Bringing Order to Chaos

- American Sign Language is unique having a structure and grammar separate from English.
- Meaning can also be conveyed via inflectional morphemes that specify the origin or endpoint and the direction of movement of the sign

*-Newman, Hauser, Newport, and Bavelier 2010*



# Differences in Language

English



American Sign



“Hello, my name is Tara M. Clark”

# Differences in Language

- Although very different in production the previous examples are conceptually identical.
- It is inherently more visual to rely on the use of space rather than word order when trying to send or receive a message.
- The instruction of ASL in effect provides the child with autism simultaneous communication on a consistent basis.

# Therapeutic Benefits

- The instruction of ASL in effect provides the child with autism simultaneous communication on a consistent basis.
- The unique features of the language make it a mode of communication that may be therapeutic to their specific developmental deficits
- It is inherently more visual to rely on the use of space rather than word order when trying to send or receive a message.

# Therapeutic Benefits

- The goal of AAC is to promote normal speech.
- A comparison between the Picture Exchange Communication System (PECS) and sign language indicated both systems produced a higher percentage of independent requests for preferred items in school aged children with autism.
- It found sign language also produced a higher percentage of vocalizations.

# Therapeutic Benefits

- Requests for preferred items learned with the examiner were further generalized to the classroom.

*-Matt Tincani 2004*

- The higher percentage of vocalizations can be attributed to their natural tendency to idiosyncratic language or repetitive phrases and evidence of generalization to a different environment.

# Therapeutic Benefits

- As previously stated native speakers of English rely heavily upon word order. Vocalization is a key component of the English language and seems a natural generalization of the speech and language process.
- The mere process of learning ASL establishes both a verbal and visual register for language. The child actually learns to encode language: a vital component of learning.

Literacy begins with the hands.





Could this really be the answer to speech and language acquisition?



# Ask a series of questions...

1. Is there intent?
2. Do they use “their” language to communicate?
3. Is there a desire to communicate?



There have to be purposeful attempts at communication. He or she may not have access to speech, but do they still attempt to let you know what is happening with them?

4. Are there known cognitive or attention deficits?\*
5. Is there evidence of fine motor skill development?  
Potential?\*

\*Extremely important in deciding whether or not American Sign Language is a vital communication method.

# Clarity

- Is it reasonable to assume from these studies speech and language delays could be a result of the lack of communication access rather than cognitive deficit?
- Normal developing children are exposed to their native languages on a consistent and constant basis, but their ability to interact socially comes from being able to “access that language.



# Clarity



- Not true for the child with autism
- These children learn to communicate in alternate ways, most often in a modality that is inconsistent with social norms.
- These alternatives could be easily misconstrued as cognitive deficits when in reality, the child is reaching out to their environments in their own manner.

# Reality...

- The ability of the child with autism to access the outside world is limited. Therefore multiple methods may be necessary to obtain a successful outcome.
- Children with autism acquire language later than their typically developing peers and should not be a basis for formal IQ. –*Stokes 1999*
- Any and all methods of language acquisition should be considered stepping stones to effective communication.

# Happily ever after...

- The ultimate goal for all parents and loved ones is for their child to have some sort of normalcy in their lives.
- Will my child be able to get a job or career and somehow earn a living for themselves?
- How does all this factor into a work situation?

# Happily ever after...

- By teaching effective and appropriate communication, your child becomes an adult who can communicate with more than just family members or friends.
- They learn techniques on how to teach others how to relate to them in their world naturally rather than trying to 'fit in'.

# Happily ever after...

- Job training is focused on a particular skill or trade rather than working around a disability.
- They develop relationships outside of their comfort zone and begin to show the world they have a VOICE rather than a representative to speak on their behalf.
- The most important benefit is they have something of their own created by themselves.

# Work Adjustment Training

- Assists an individual in developing work skills, work habits, and job retention skills required to obtain and maintain employment.
- Training includes activities to improve and increase productivity, attendance, punctuality, ability to work with others, ability to work under supervision, and work tolerance.



# Dallas Cowboys Football Organization



# Resources

- American Speech Language and Hearing Association-  
[www.asha.org](http://www.asha.org)
- AAC and Autism-[www.aacandautism.com](http://www.aacandautism.com)
- The AAC Institute-[www.aac institute.org](http://www.aac institute.org)
- American Sign Language University-  
[www.lifeprint.com](http://www.lifeprint.com)
- Clerc's Children-[clercschildren.com](http://clercschildren.com)

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