GPAT: Summer Institute 2011
Communication is a Right: AAC Basics and Barriers

AAC Myths or Facts!

1. Using AAC (especially a high tech device) will keep someone from talking.
   A. _____ TRUE or _____ FALSE
   B. Why might some people believe this statement?

2. An individual can be too cognitively impaired to benefit from AAC
   A. _____ TRUE or _____ FALSE
   B. Why might some people believe this statement?

3. There are pre-requisites to using AAC.
   A. _____ TRUE or _____ FALSE
   B. Why might some people believe this statement?

4. If an individual has some speech, AAC is not needed.
   A. _____ TRUE or _____ FALSE
   B. Why might some people believe this statement?

These Myths and more may be found on AAC Myths Learning Path on the Implementation Toolkit on the DynaVox website (www.dynavoxtech.com).

Implementation Toolkit

Dynamic Therapy Associates, Inc.

www.mydynamictherapy.com

Accelerated Learning

DynaVox Mayer-Johnson

AAC Myths Revealed

Myth: *Introduction and use of AAC* will keep an individual from using or developing his or her natural speech.*

True or False: *False*

Speech is the means of communication with which we are most familiar. We are thrilled when we hear a child's first word and look forward to hearing him express his wants, needs, feelings and thoughts. We anticipate him being a competent communicator saying what he wants, when he wants to whom he wants. When an individual has experienced a life changing event such as a brain injury or stroke, we hope that she will be able to express herself as she did before. There are times, however, when speech is not developing or is not functional to meet an individual's communication needs for various reasons. It is in these circumstances when introduction of AAC is suggested.

The suggested introduction of AAC often results in families, caregivers, teachers and others expressing the following concerns (University of Nebraska-Lincoln's AAC Connecting Young Kids [YAACK] website):
:

- Use of AAC will keep the individual from talking.
- Introduction of AAC means we have given up on speech.
- AAC will become a crutch. The individual will not work on speech. He will take the easy way out and use AAC.
- This individual is too young for AAC or it is too early in her recovery process for AAC. We need to give her more of a chance to use her speech before introducing AAC.

While we can certainly understand these concerns, **AAC will not keep an individual from using or developing natural speech.**

How do we know that AAC will not keep an individual from using or developing natural speech?

Let's review available research as well as anecdotal information from families and professionals.

*Definitions

Augmentative-alternative communication (AAC) refers to communication tools and techniques used individually or in combination to supplement communication for people who have difficulty communicating through speech or writing. AAC includes unaided communication techniques (e.g., pointing, gestures) , low technology (e.g., communication books and boards) and high technology AAC (e.g., devices and computers that have voice output also known as speech generating devices—SGD"s).

Millar, Light & Schlosser (2006) reviewed previously published studies that, among other criteria, presented data on "speech production before, during and after AAC intervention." This review revealed that participants demonstrated the following:

- Increases in speech production—89%
- No change in speech production—11%
- Decreases in speech production—0%

Schlosser & Wendt (2008) reviewed previously published studies describing the "effects of AAC on speech production in children with autism or pervasive developmental disorder-not otherwise specified." They reported that a majority of studies revealed increases in speech production and "none...reported a decline."

These reviews of research indicate that AAC does not impede production of speech but appears to have a positive effect on speech production. This conception has been further supported over the years by report and observation of families, caregivers and professionals as well as anecdotal reports from researchers such as Romski, Sevcik and Pate (1988). It was recently cited as an evidence-based strategy to utilize with young children who are not imitating speech as a means of facilitating natural speech development (DeThorne et. al., 2009).

Why does AAC tend to have a positive impact on speech production?

Before exploring this, let us reiterate the purpose of AAC intervention. Schlosser & Wendt (2008) state the following:

> *It is understood that the primary aim of AAC intervention is to facilitate a child's communicative competence through the use of multiple communication modalities that are by their very nature supplementing ("augmentative") or replacing ("alternative") natural speech (Light, Beukelman, & Reichle, 2003). Thus, although improvements in speech production per se are not a primary goal of AAC interventions, such outcomes do represent a welcomed bonus to AAC intervention efforts.*

Though the statement above focuses on the communicative competence of children, this statement is equally true for adults. Beukelman, Garrett & Yorkston (2007) suggest that the "lead" for their chapter introducing AAC services for adults with chronic medical conditions could be, "Adults who are experiencing chronic medical conditions use assistive technology to participate in life situations and to stay connected with the world around them." This, like the quote from Schlosser & Wendt reinforces that the purpose of AAC (a type of Assistive Technology) is first and foremost to build communicative competence to interact in the world.

Why then does this "bonus" (so-called by Schlosser & Wendt) of increased speech production occur? Blischak, Lombardino & Dyson (2003) discussed some "possible reasons that AAC use overall and SGD use, in particular, may promote natural speech production" based on available research. Effects were grouped as follows:

- Communication Effects—increases in the individual's participation in interaction "including opportunities, turns, messages, and functions" , and length of utterance.

- Motor Effects—"reduced physical demands" and decreased "pressure to speak"

- Acoustic Effects—"immediate output" from the SGD (speech output when a message is selected), increased "consistency/quality of speech models", coupling of graphic symbols with speech output, "development of internal phonology*"

We now understand that AAC does not impede an individual's use of speech and have explored some of the factors that may contribute to increases in speech production following introduction of AAC and specifically SGD's.

How much improvement in speech should we expect and how quickly?

According to Millar, Light & Schlosser (2006), speech gains in the studies they reviewed were "modest." However, they asserted that gains in speech production must be considered based on the skills of the individuals prior to introduction of AAC. They went on to indicate that improvement in speech production occurred immediately in some individuals while in 21% there was a "lag between the onset of AAC intervention and evidence of gains in speech production."

Schlosser & Wendt (2008) noted that for individuals with autism gain in speech production "may vary across individuals." They went on to note that the amount of improvement may vary as well from "small in magnitude" to "large gains" but what characteristics impact gains in speech are not yet fully known.

As we might expect, there does not appear to be a hard and fast rule regarding how much or how quickly improvement in speech production may occur (or if it will occur) following introduction of AAC. However, Schlosser & Wendt (2008) point out that the "potential for lack of natural speech production gains...does not negate the value of AAC interventions."

How do natural speech and AAC work together?

All of us use multi-modal communication systems on a daily basis. We talk, point, wave, use facial expression and body language. We make decisions about what method of communication to use based on the environment, our communication partner and the message.

The individual who uses AAC is no different. AAC, speech, pointing, gestures, facial expression and body language co-exist as part of his/her multi-modal communication system. Just as we do, he/she needs to made decisions about which mode of communication to use based on the environment, communication partner and message. More can be found on this subject in the "Tools for AAC Users" Learning Path in DynaVox's Implementation Toolkit.

If AAC is introduced, will it always be a part of an individual's communication system?

Those of us with functional speech use forms of AAC on a daily basis (e.g., gesturing, pointing

*Definitions

Internal Phonology—Phonology is the study of speech sounds in language, how they are organized and used. Our internal phonology allows us to segment words and sentences in languages known to us; thus, understand and learn language. Blischak et. al. (2003) that evidence did not exist at the time regarding the "role of speech output in the development of internal phonology." However, Loncke et. al. presented results of a study at the American Speech Language & Hearing Convention 2008 suggesting that auditory feedback form an SGD "may have an effect on internal phonological reinforcement:" and "strengthens the phonological component of the AAC user."

to objects or pictures in the environment). Therefore, the answer is "yes." AAC will be a part of the individual's communication system throughout his/her life. The variable is what kind of AAC, how frequently and in what situations it is used. With improvements in the quality of speech production, we may see an individual use of AAC with unfamiliar communication partners only, on the phone or to repair communication breakdown.

An important note must be made here. Frequently, familiar communication partners may say, "He doesn't need AAC. I understand him." or "She uses it at _____ because we understand her here."

These beliefs result in limited use of AAC and may negatively affect the learning curve. Until an AAC user is proficient (competent) in communicating with AAC, use of it needs to be encouraged in all environments by all communication partners.

What are the truths about AAC and speech?

- AAC will NOT keep someone from developing or using natural speech.
- AAC tends to have a positive effect on speech production and has been recommended as a treatment method for development of natural speech.
- Gains in speech production following introduction of AAC vary from individual-to-individual.
- AAC is part of an individual's overall communication system that includes natural speech.
- AAC enhances an individual's ability to communicate effectively and independently.

References

Beukelman, D., Garrett, K., & Yorkston, K. (2007). Augmentative communication strategies for adults with acute or chronic medical conditions. Baltimore: Paul H. Brookes Publishing.

Blischak, D., Lombardino, L.,, & Dyson, A. (2003). *Use of speech-generating devices: in support of natural speech.* Augmentative and Alternative Communication,19:1,29 — 35

DeThorne, L., et. al. (2009) *When "Simon Says" doesn't work: Alternatives to imitation for facilitating early speech development.* American Journal of Speech-Language Pathology, 18, 133-145.

Does AAC impede natural speech?- and other fears. University of Nebraska-Lincoln's AAC Connecting Young Kids [YAACK] website—www.aac.unl.edu/yaack/b2.html

Light, J.., Beukelman, D., & Reichle, J. (2003). *Communicative competence for individuals who use AAC: From research to effective practice*. Baltimore: Paul H. Brookes Publishing.

Loncke, F., et. al. (2008, November) *Are users of speech generating devices using an internal phonology?.* Technical/Platform Session at the American Speech Language Hearing Association Convention: Chicago.

Millar, D., Light, J., & Schlosser, R. (2006). *The impact of augmentative and alternative communication intervention on the speech production of individuals with developmental disabilities: A research review.* Journal of Speech, Language and Hearing Research. 49:248-264.

Romski, M., Sevcik, R., & Pate, J. (1988). *The establishment of symbolic communication in persons with severe retardation*. Journal of Speech and Hearing Disorders, 53, 94 – 107.

Schlosser, R., & Wendt, O., (2008). *Effects of augmentative and alternative communication intervention on speech production in children with autism: A systematic review.* American Journal of Speech-Language Pathology. 17: 212-230.

What is AAC. International Society on Augmentative and Alternative Communication, http://www.isaac-online.org/en/aac/what_is.html

Accelerated Learning

DynaVox Mayer-Johnson

AAC Myths Revealed

Myth: If an individual has some (or even a little) speech, AAC Is not needed.
True or False: False

When the idea of AAC is suggested for an individual, communication partners might say:

- He says a few words or sentences really well.
- I can understand him/her at home…in school…in therapy.
- He can say full sentences after me.
- She repeats whole sentences that she hears in movies or on TV.
- We are going to wait and see if speech improves.
- We don't want her to rely on the computer and not learn speech.

Let's take another look at these statements and ask some additional questions.

- He says a few words or sentences really well. *What about increasing his vocabulary (or learning new things)?*
- I can understand him at home…in school…in therapy. *What about other people?*
- He can say sentences fully after me. *What about when you are not there?*
- She repeats while sentences that she hears in movies or on TV. *Are those appropriate responses in every conversation? How does she carry on a conversation?*
- We are going to wait and see if speech improves. *How long will you wait? A week, a month, a year? What about all the language learning and experience that he/she will miss?*
- We don't want her to rely on the computer and not learn speech. *How will she communicate while you are working on speech?*

The question we have to ask is, "Would you consider any of the statements we posed at the beginning to be *FUNCTIONAL COMMUNICATION?"* It may be functional to communication partners who are familiar with the individual or the situation, but what about for those who are not? What about learning and developing language? We need to look more closely at the benefits as well as costs to individuals with communication impairments, who have "some speech" and how AAC might enhance their overall communication interaction and language development.

United States and Canada • 1-866-396-2869 • www.dynavoxtech.com
United Kingdom and Ireland • +44 (0)1384 446789 • www.dynavox.co.uk

Benefit:

There are definitely some benefits to using context and familiarity . Certain individuals (e.g., family member, teacher, staff member, and therapist) understand a person with severe communication impairment quite well. Why is this? These communication partners may fall into one or more of the following categories:

- Know the individual well
- Are very familiar with the environment and/or routine in which communication is taking place

The communication partners may be able to correctly interpret a single word or a hard-to-understand sentence correctly because of their familiarity with the speaker or their knowledge of the situation. Let me give you a few examples.

John *looks out of the window and says, "car." His teacher responds, "Your mom will be here at 3:30. We need to keep working."*

Carol *and her husband are in the grocery store. Carol points to the women's magazines at the checkout. Her husband says, "Oh, that's right. We need to get the TV schedule."*

Chris *enters the room and produces a story in which the word, "daw" is produced several times. Her mother or therapist knows that "daw" is "dog" and asks Chris yes and no questions to figure out the rest of the story.*

Jack*'s peer asks him if he wants a drink. Jack says, "drink." His peer gives him a drink. Jack's peer asks if he wants a soda or water. He says, "water." His peer gives him water.*

Tyler *has a ten to twelve sentences that he is able to use to request (e.g., Time to go home., I want a snack.) as well as lines from commercials that he likes to repeat. His mother knows that these lines from commercials are not requests or comments to a particular person but Tyler's way of comforting himself..*

These communication situations would have failed had the communication partner not had the benefit of context and familiarity. So, what is the problem?

Cost:

The success of each of these scenarios is based on the assumption that these communication partners will accurately interpret the speaker's message and that this familiar or knowledgeable communication partner will always be available.

Let's look at each of those scenarios again.

"John"

- *What if he wanted to point out a car that he saw out the window?*
- *What if he wanted to know if it was time to go but a substitute teacher was there for the day?*

"Carol"

- *What if Carol was pointing out something interesting in one of the magazines?*
- *What if she wanted to buy one of the magazines?*
- *What if her son was with her rather than her husband and instead of coming home with a TV schedule, they arrived home with a tabloid?*

"Chris"

- *What if Chris's mother or therapist don't ask the right yes/no questions to figure out what Chris is trying to communicate?*
- *What if Chris wants to tell this story to someone other than her mother or therapist? Could she do it without help from her mother or therapist?*
- *What if Chris used the word "daw" with someone other than her mother or therapist and that person thought Chris was talking about a duck or a dock?*

"Jack"

- *What if Jack were repeating the last work he heard? What if he really wanted soda (or something else) and when his peer gave him juice Jack pushed it away?*
- *What if the peer said, "What do you want?" Could Jack answer?*

"Tyler"

- *What if Tyler's communication partner thinks that Tyler wants, needs or is observing something when he says a line from a commercial?*
- *How would Tyler make friends or participate in school with this limited set of sentences?*

United States and Canada • 1-866-396-2869 • www.dynavoxtech.com
United Kingdom and Ireland • +44 (0)1384 446789 • www.dynavox.co.uk

The cost of relying on familiarity and context is that it assumes that you, as the communication partner, always know what someone else is going to say. It assumes that an individual will always say the same thing in a given situation or that you will always be there to interpret accurately. This is certainly not a helpful assumption in any relationship. It does not allow for or encourage growth and independence in an individual's communication skills and interests. It also limits the individual's ability to communicate outside the circle of those who are familiar and knowledgeable. The person with severe communication impairment cannot effectively establish or deepen relationships with others or demonstrate new knowledge or thoughts (Light, Collier, & Parnes, 1985; National Research Council, 2001).

Think about it:

- How do you feel when someone finishes your sentence but does it incorrectly?
- How do you feel when someone assumes they know what you want, think or feel?
- How would you like to interact with the same one or two people?
- What would it be like to be able to produce only a few words or sentences that people could understand?
- What would it be like if you were able to communicate by repeating the last word(s) said by others or by producing lines from movies or television shows?

Note about Echolalia:

Some individuals are able to produce complete sentences that are imitations of what others say or quotations from television shows or movies. These productions may serve to gain attention or deal with emotions but do not typically provide a way for individual to successfully interact with others. Communication using echolalia is often viewed as successful because the individual appears to be agreeing with the communication partner (e.g., Partner: "Do you want to go for a ride?" Communicator: "Ride.", Partner: "It's hot", Communicator: "Hot."). Echolalia may or may not reflect what an individual really wants to communicate and may not demonstrate actual language skill and needs.

The cost of relying on familiarity and context is that it assumes that you, as the communication partner, always know what someone else is going to say. It assumes that an individual will always say the same thing in a given situation or that you will always be there to interpret accurately. This is certainly not a helpful assumption in any relationship. It does not allow for or encourage growth and independence in an individual's communication skills and interests. It also limits the individual's ability to communicate outside the circle of those who are familiar and knowledgeable. The person with severe communication impairment cannot effectively establish or deepen relationships with others or demonstrate new knowledge or thoughts (Light, Collier, & Parnes, 1985; National Research Council, 2001). Use of AAC as part of an overall communication system can assist in avoiding these costs.

Role of AAC:

AAC can include anything from pointing to objects in the environment to communication boards containing photos or picture symbols to devices that talk. Those of us who speak use AAC every day. We point to maps or signs. We gesture for someone to join us or be quiet. We write out instructions and point to objects in the environment. AAC needs to be part of an

overall communication system that includes speech, vocalizations, gestures, signs, pointing, facial expression and body language. The specific AAC tools and techniques selected for an individual must be based on his/her needs and skills.

You may wonder whether the use of AAC will keep an individual from developing or improving the speech they do have. The answer to that question is "no." Use of AAC does not keep someone from developing speech. Reviews of research (Millar, Light & Schlosser, 2006, Schlosser & Wendt, 2008) indicate that AAC does not impede production of speech but appears to have a positive effect on speech production. This conception has been further supported over the years by report and observation of families, caregivers and professionals as well as anecdotal reports from researchers such as Romski, Sevcik and Pate (1988). We'd suggest that you download "Myths—AAC will Keep Someone from Talking" in the "AAC Myths Revealed" Learning Path on the Implementation Toolkit for additional information.

Let us consider the role AAC can play in the life of an individual with severe communication impairment. AAC provides a means of:

- Communicating more understandably
- Expressing the exacting message one wishes to produce
- Interacting with less familiar people
- Sharing messages that are "outside the norm" for a particular routine
- Communicating with greater independence
- Being seen by others as being a more competent communicator
- Participating in longer and deeper interactions
- Expanding language and communication skills

Let's revisit our scenarios. What might happen if the individuals used AAC, specifically a speech generating device (communication device that has voice output) as part of their overall communication system?

"John"

- *John looks out the window and says, "car" and points to a photograph of his mother. His teacher responds, "Your mom will be here at 3:30. We need to keep working."*
- *John looks out the window and says, "car" and produces "look" with his speech generating device (SGD). His teacher looks out the window and says, "Yes, that is a fancy car."*

"Carol"

- *Carol points to the magazine then uses her SGD to say, "We need a TV schedule" to her son.*
- *Carol says "That is too bad." with her SGD while pointing at the magazine to her husband. The cashier adds a comment, "Can you believe that?"*

"Chris"

- *Chris uses her SGD to tell her mother or therapist what happened with the dog. It turns out to be something her mother or therapist would never have guessed.*
- *Chris is able to tell the story to her grandmother on the phone, to her neighbor, to her friend and to the sales person at the store.*

"Jack"

- *Jack repeats the last word the peer says but then points to what he wants on his SGD.*
- *Jack produces the sentence with his device, "I want ___." and later says, "____ is good!"*

"Tyler"

- *Tyler requests verbally using his ten to twelve messages and to comfort himself with lines from commercials. He uses his SGD to greet friends, participate in educational activities and make more unusual requests.*
- *Tyler uses social stories and schedules stored in his SGD to comfort himself. He continues to request verbally but expands his repertoire of requests and produces social messages using his SGD.*

In each of these scenarios, the use of AAC provided a way for these individuals to expand the depth of their interaction as well as their independence. We do not know how much the speech of these individuals will improve and whether it will be functional enough to meet their communication needs. We do know that AAC can play an important role for these individuals to leverage language and communication skills that already exist as well as develop additional language and communication skills. AAC can encourage participation and independence in all environments and with a variety of communication partners.

References

Beukelman, D. R. & Mirenda, P. (2005). *Augmentative & Alternative Communication: Supporting Children & Adults with Complex Communication Needs, Third Edition*. Baltimore, MD: Paul H. Brookes Publishing.

Blackstone, S. (1999). Survey of AAC Users. In J. Mosheim, *The communication partner in AAC* (pp. 10-13). ADVANCE for Speech-Language Pathologists and Audiologists, August 2, 2004.

Light, J., Collier, B., & Parnes, P. (1985). Communicative interaction between young nonspeaking physically disabled children and their primary caregivers: Part II--communicative function. *Augmentative and Alternative Communication, 1,* 98-133.

Millar, D., Light, J., & Schlosser, R. (2006). *The impact of augmentative and alternative communication intervention on the speech production of individuals with developmental disabilities: A research review.* Journal of Speech, Language and Hearing Research. 49:248-264.

Romski, M., Sevcik, R., & Pate, J. (1988). *The establishment of symbolic communication in persons with severe retardation*. Journal of Speech and Hearing Disorders, 53, 94 – 107.

Schlosser, R., & Wendt, O., (2008). *Effects of augmentative and alternative communication intervention on speech production in children with autism: A systematic review.* American Journal of Speech-Language Pathology. 17:

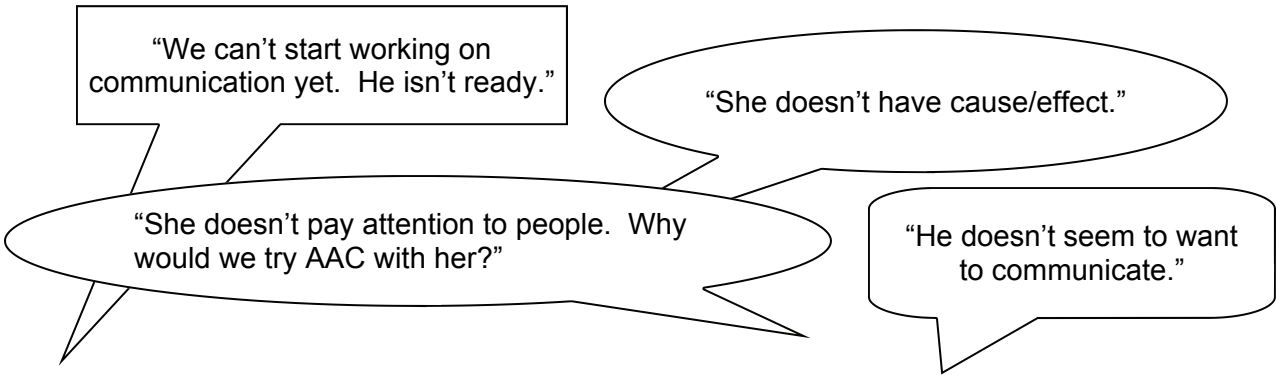
Accelerated Learning

DynaVox Mayer-Johnson

AAC Myths Revealed

Myth: *An individual can be too cognitively impaired to benefit from AAC.*

True or False: *False*



These comments above imply that an individual is too impaired (or "too low") to use AAC. Statements (or assumptions) like these result in AAC not being provided at all, being delayed or all options not being fully considered.

In 1988, Kangas & Lloyd wrote an article entitled, "Early Cognitive Skills as Prerequisites to Augmentative and Alternative Communication Use: What Are We Waiting For?" which reviewed the literature to this topic and found no "sufficient data to support the view" of the above statements. In addition, they stated that the "communication experience can also be a vehicle for expanding cognitive skills." In the field of AAC, this article became foundational in the field of AAC in support of AAC for <u>all</u> those with communication impairments.

<u>*Definition</u>
AAC—Augmentative-alternative communication (AAC) refers to communication tools and techniques used individually or in combination to supplement communication for people who have difficulty communicating through speech or writing. AAC includes unaided communication techniques (e.g., pointing, gestures) , low technology (e.g., communication books and boards) and high technology AAC (e.g., devices and computers that have voice output also known as speech generating devices—SGD"s).

United States and Canada • 1-866-396-2869 • www.dynavoxtech.com
United Kingdom and Ireland • +44 (0)1384 446789 • www.dynavox.co.uk

Since the late 1980's, use of AAC (especially light tech AAC) is more commonly used with those individuals judged to have significant cognitive impairments. Objects, photographs and Picture Communication Symbols (Boardmaker symbols) are used for requesting and choice making activities. Switches attached to toys or appliances are used to provide cause/effect activities while switches attached to single-message AAC devices are used offer activities focusing on communicative intent or cause/effect in a communicative situation (e.g., hit the switch, the device says, "I want a tickle.", someone tickles the individual).

It appears that these concerns about cognitive impairment have been addressed. We all agree that AAC should be provided and communication needs addressed regardless of the cognitive skills of the individual, right?

Unfortunately, that is not the case. As stated before, AAC may still not be provided, may be delayed or all options will not be fully considered for individuals judged to have cognitive impairments because of:

- Continued belief in cognitive prerequisites for AAC. *Cress & Marvin (2003) report that lists of "arbitrary skills" for introduction of AAC have been published as recently as 2003 in professional journals.*
- Lack of expectations for those with significant cognitive impairments.
- Belief in prerequisites specifically for use of speech generating devices (SGD's).

In the next pages, we will provide specific information related to these beliefs and provide resources for providing AAC services to those individuals with severe cognitive impairments.

Cognitive Prerequisites

There are those who believe that one must have certain cognitive skills before one develops language. Some of these cognitive skills include causality or cause/effect (understanding that one event is a consequence of another), means-end (planning steps to reach a goal), object permanence (objects continue to exist even if they are out of sight and cannot be perceived by hearing or touch) and others. However, the relationship between development of cognitive and language skills is "complex" (Kangas & Lloyd, 1988) and has "not been clearly specified" (Romski & Sevcik, 2005). Kangas & Lloyd reported that the studies they reviewed showed:

- A "correlation between cognitive development and the emergence of speech" or "language abilities" but did not "demonstrate a cause and effect relationship."
- Occasions when certain language skills appeared in the absence of expected cognitive skills given the scenario that cognition precedes language.

These statements alone cast considerable doubt on our choice to withhold or delay provision of AAC on the basis that certain cognitive skills must appear first.

Beukelman & Mirenda (2005) state that "…'not ready for' criteria were used as a result of misguided interpretation of literature examining communication and language development in typical children" and advocate guidelines based on "communication needs." In this model described in Beukelman & Mirenda (2005), one identifies the communication needs of the individual in their varied environments as well as "how many of those needs are met through current communication techniques" then decreases "the number of unmet needs through systematic AAC intervention." Use of this inclusive model ensures that the communication needs of each person will be met regardless of cognitive abilities.

Resources

In DynaVox's Implementation Toolkit, we have resources that provide additional information and supporting research on the benefits of AAC in our "AAC Myths Revealed" learning path—http://www.dynavoxtech.com/training/toolkit/paths.aspx?id=7

"AAC Myths Revealed—Some Speech Means AAC is not Needed"

"AAC Myths Revealed—Too Soon for AAC after Neurological Event"

"AAC Myths Revealed—AAC will Keep Someone from Talking"

Providing AAC to individuals with cognitive impairment regardless of the degree will not only assist in meeting their communication needs but may also positively impact speech and language development, literacy, social skills, relationships with others and participation in the academic or vocational environment. *See resources list to the left.* Romski & Sevcik (2005) underscored this for young children saying, "Given the overall impact language exerts on cognitive development, a lack of expressive language skills may put an individual at a distinct developmental disadvantage." While Beukleman, Garrett & Yorkston (2007) remind us that AAC for adults allows them to "participate in life situations and to stay connected to the world around them."

Expectations

The discussion above about the benefits of AAC —the potential to impact skill development and participation in life—can trigger questions regarding the ability of the individual with a significant cognitive impairment to learn and the potential of these individuals to really reap the benefits of AAC. The prevailing paradigm (described in Jorgenson, 2005) has encouraged us to assume incompetence and limited potential for individuals with cognitive impairment despite presumptions that are not only flawed but have been shown to be inaccurate—our ability to accurately measure intelligence in an individual with communication and possibly physical disabilities and that individuals with cognitive impairments are unable to learn. Such thinking has lead to reduced opportunities and segregation in many aspects of life for those with cognitive impairments.

As part of a team doing augmentative communication evaluations on students with severe/profound disabilities, an evaluator was confronted once by the school SLP who challenged, "Why are we spending money evaluating these kids. They are *neurologically impaired* . They can't learn." There it is in this true story—the prevailing paradigm. The evaluator recalled being shocked by the question but responded, "We don't know what they can learn but we do know that they will *not* learn if *we* do not teach them."

This response above exemplifies the paradigm of the least dangerous assumption (originally introduced by Anne Donnellan in 1984 and described by Jorgenson in 2005) which is based on two principles:

- If no conclusive data is available, educational decisions should be based on assumptions that, even if incorrect, will not negatively impact the students' ability to function independently as adults.
- Poor performance is more related to the quality of instruction than to the capabilities of the student.

In other words, we must presume competence and expect communication.

> "...we realize that everyone can communicate, and, in fact, everyone does communicate in some way, somehow, if there is something important to say. In other words, communication is neither a right nor something that has to be learned—it is an inevitability: people cannot not communicate." Mirenda, 1993

We must expand communication skills using evidence-based techniques (this includes AAC) that will not harm the individual and we must increase communicative opportunities accordingly. *information about this evidence maybe found in resources listed on previous page.*

Resources for Addressing the Communication Needs of Individuals with Severe/Profound Disabilities

Beukelman, D., Garrett, K. & Yorkston, K. (2007). *Augmentative communication strategies for adults with acute or chronic medical conditions.* Baltimore: Paul H. Brookes Publishing Company.

Every Move Counts—"...sensory approach to communication and assistive technology…" - http://www.everymovecounts.net/

Kent-Walsh, J. & Binger, C., (2009). Addressing the communication demands of the classroom for beginning communicators and early language users. In Soto, G. & Zangari, C. *Practically speaking: Language, literacy & academic development for students with AAC needs.* Baltimore: Paul H. Brookes Publishing Company.

Reichle, J., York, J. & Sigafoos, J. (1991). *Implementing augmentative & alternative communication: Strategies for learners with severe disabilities.* Baltimore: Paul H. Brookes Publishing Company

The SLP mentioned earlier did just this. She embraced this new paradigm and became an instrument for change in her school encouraging others to presume competence, implementing new ideas to build skills (resource list above) and providing new communication opportunities even obtaining grants for equipment. Progress (small and large) in students was celebrated and there was a sense of excitement in the program. As Jorgenson (2005) encouraged, this SLP used the "least dangerous assumption as a guide is a powerful tool for keeping alive a vision of a valuable life and quality communities."

Prerequisites for SGD's

Consideration of assistive technology (including AAC—light and high technology) is a legally mandated part of every IEP and should be considered as a treatment option for those receiving speech language therapy based on the following:

- "Individuals shall use every resource, including referral when appropriate, to ensure that high-quality service is provided." (ASHA, 2003)
- "...all SLPs are expected to recognize situations in which mentoring, consultation, and/or referral to another professional are necessary to provide quality services to individuals who may benefit from AAC." (ASHA, 2002)

As noted previously, light tech solutions (e.g., communication symbols, boards and books) as well as simple technology (e.g., single message devices, devices with sequenced messages) have been more readily used with individuals with significant cognitive impairments in the past years. There are those who would suggest that high-tech AAC (SGD's) are inappropriate for individuals unless they demonstrate certain skills...certain prerequisites. These prerequisites include some of the early cognitive skills we named previously (i.e., cause/effect, means-end, object permanence) but may also include skills such as understanding of symbols, categorization, adequate memory, etc.

The belief in such prerequisites specifically for SGD's may be based in two issues cited by Romski & Sevcik (2005) - expense of SGD's and complexity of use—as well as the belief that communication must be *independent*. Romski & Sevcik noted that SGD's today do not require the "sophisticated set of cognitive skills" once needed for operation. The expense of SGD's vary significantly based on features available. However, the authors pointed out that this view was probably based in the idea that "the money should only be spent on children who could 'truly benefit' from the device."

The Least Dangerous Assumption would encourage us to rethink this stance and, instead, base our selection of AAC on an approach matching the strengths and needs of the individual (Beukelman & Mirenda, 2005, Communication Needs Model) to the features of AAC (gestures/ signs, light tech, high tech or any combination). Features of a specific SGD such as voice output, representation and organization of vocabulary, similarity to electronic screen media (e.g., TV, gaming systems), ability to incorporate video and audio, variety of selection methods* and feedback options (e.g., audio and visual), etc. may match the strengths and needs of individuals better than other forms of AAC though it should be noted that AAC is best when a part of a multimodal communication system*. *See resource reference on right.*

Resource on Multimodal Communication

In DynaVox's Implementation Toolkit, we have resources on multimodal communication in our "Tools for AAC Users" learning path—http://www.dynavoxtech.com/training/toolkit/paths.aspx?id=4.

Finally, some hold that an individual must be able to communicate with an SGD *independently* for it to be appropriate. This view ignores the fact that none of us communicates independently. Even the most fluent speaker, needs to be prompted to recall a word occasionally, is asked questions to clarify a statement or is cued to remember a detail. Communication does not happen in a vacuum. We rely on others to collaborate with us to establish meaning (co-construction) and to provide assistance/support when needed. The same is true for those with cognitive impairments. We must expect that co-construction and support will be needed and that over time that scaffolding will decrease, if not be removed.

*Definitions

Selection method—means of physically accessing keys, buttons, cells or areas, selection is often made using fingers but can be completed using a variety of body parts or equipment (e.g., pointer, mouse, joystick, switch)

Multimodal communication system—use of a variety of modes to communicate on their own and in conjunction with one another including speech, vocalizations, facial expression, body language, gestures, signs, pointing, light tech AAC, high tech AAC. Those of us who are able to speak use a multimodal communication system when we interact .

AAC for All Who Need It

In this resource, we have explored the outcome of statements that assume an individual is too cognitively impaired to use AAC. These assumptions limit, delay or withhold the provision of AAC. In addition, we have introduced an updated principle—the Least Dangerous Assumption—which calls for higher expectations of individuals who may benefit from AAC. AAC should be considered based on individual strengths and needs and the complementary features of AAC. Let us now keep looking to the truth about cognitive skills and AAC as stated so well by Mirenda (1993):

> *"...breathing is the only prerequisite that is relevant to communication. Breathing equals life, and life equals communication. It is that simple."*

References

American Speech-Language-Hearing Association. (2003). *Code of Ethics* [Ethics]. Available from www.asha.org/policy.

American Speech-Language-Hearing Association. (2002). *Augmentative and Alternative Communication: Knowledge and Skills for Service Delivery* [Knowledge and Skills]. Available from www.asha.org/policy.

Beukelman, D., & Mirenda, P., (2005). Augmentative & alternative communication: supporting children & adults with complex communication needs. 3rd ed. Baltimore: Paul H. Brookes Publishing. 111-131.

Beukelman, D., Garrett, K., & Yorkston, K., (2007). *Augmentative communication strategies for adults with acute or chronic medical conditions.* Baltimore: Paul H. Brookes Publishing. 12.

Cress, C. & Marvin, C.(2003). Common Questions about AAC Services in Early Intervention. *Augmentative and Alternative Communication*, 19 (4), 254 — 272

Jorgensen, C. (2005). The least dangerous assumption: A challenge to create a new paradigm. *Disability Solutions*, 6, 1-9.

Kangas, K., & Lloyd, L. (1988). Early cognitive skills as prerequisites to augmentative and alternative communication use: What are we waiting for?. *Augmentative and Alternative Communication*. 4 (4), 211-221.

Mirenda, P. (1993). Bonding the Uncertain Mosaic. *Augmentative and Alternative Communication,* 9 (1), 3-9.

Kent-Walsh, J. & Binger, C., (2009). Addressing the communication demands of the classroom for beginning communicators and early language user. in Soto, G. & Zangari, C. *Practically speaking: Language, literacy 8 academic development for students with AAC needs.* Baltimore: Paul H. Brookes Publishing. 289-312.

Romski, M. and Sevick, R. (2005) Augmentative communication and early intervention: Myths and realities. Infants and Young Children, 18(3),174-185.