TALK-ABOUT AAC

An AAC Application for Emerging Language Learners

By Mira Shah M.S. CCC-SLP
Speech language pathologist
Augmentative Communication Specialist

What is successful communication?

There are lots of ways that children communicate.

With mom and dad, kids find words to express love or frustration. They choose words carefully to get out of trouble or try to find a convincing way to stay up past bedtime. On the playground, holding court with jokes or funny stories might be the best way to eventually get in on the game that other kids are playing. And, in the classroom, picking words to help problem solve, work collaboratively, and participate academically are critical.

As parents, educators or therapists, these are the visions we have for children who use augmentative and alternative communication. While there are many paths to reach these goals, each child needs an individualized approach that promotes their strengths and supports their weaknesses.

In some situations, we need quick access to phrases and sentences to participate. In other daily events, it is paramount that we have access to vocabulary that can be used in a novel manner across situations to get our point across. That is where core words come in.

Core words are the vocabulary we use everyday hundreds of times in different situations from one moment to the next. Words like "go," "more," "get," or "don't" can be used at home with family, in cafeteria at school, or at a restaurant or party.

And because it is not possible to predict the communicative needs of every situation, core words give children who use AAC a toolbox of language that they can use in any situation.

A toolbox of core words is a powerful asset. When young children try out the new vocabulary that it holds, they, as communicators, learn lots of things…..

1. They start using the words that they hear being used around them all the time.
2. By using the words they hear, the meaning of those words begins to take root.
3. When using words intentionally in meaningful situations, the responses children receive from important communication partners help tie core words to emotional experiences that make the words' meaning more powerful and memorable.
4. As children start using these words over and over, they are able to connect new words to the familiar words, and they can begin to see how core words fit together to enhance the meaning of their message. In essence, they gain experience with more sophisticated language and cognitive concepts.
5. Using multiword combinations becomes a powerful foundation to start making longer sentences and to start using words to negotiate and problem solve.
6. As children gain more experience with talking using core words, the words they see and work with in literacy lessons are more familiar.

©Talkabout, Mira Shah, 2008

Let's look at an example.

If a child says "car," a parent may pick up the car and give to the child, but if the child really wants the parent to make the car "go," he or she learns from expression that "go" puts the process into action while "car" may yield them the actual object.

By learning which words can precipitate action, children begin to understand and group like words together. So they learn that words like "stop," "run," or "read" also make something fun happen. By beginning to understand and group words together by what they accomplish, it creates a basis to eventually understand where a word belongs in a phrase or sentence.

CHILDREN USE THE WORDS THAT THEY HEAR!

It is well documented that children begin to speak the words that they hear repeatedly by their parents and other caregivers. A study by Cameron-Faulkner, Lieven, and Tomasello (2003) reported that children hear an estimated 5,000 to 7,000 utterances per day, and in their analysis they found that approximately 45% of all maternal utterances began with one of 17 lexemes.

They are also follows: **what, that, it, you, are/aren't, do/does/did/don't, I, is, shall, a, can/can't, where, there, who, come, look,** and **let's.** It was also found that the children in the study began using these words, and many began using them "at a rate that correlated highly with their own mother's frequency of use."

This study and many others make a strong case for the salience of core words in parents' speech. Additionally, by bringing joint attention to an activity with an AAC user and meaningful communication partner, we are able to emphasize core word and create further salience.

When children first start using words to talk, they learn to use multiple pieces of concrete language together to make multiword utterances. Saying "go car" might lead to a toy car going down a ramp or getting to go in the car to the park. If he or she had only said "go," mom may have gotten up and gone to another room or might have thought that "go" referred to any number of fun things that "go" like a bike or swing.

By using core words, especially words that assign action or location in an everyday context with important people, single words come to life and become the building blocks of more sophisticated novel communication.

The goal of the Talkabout language application is to provide individuals who have emerging language the opportunity to use core words in a way that allows them to connect word meanings with important everyday experiences.

How do we characterize an AAC user with emerging language?

According to Dowden (1999) AAC users with emerging language skills can be characterized as communicators who use a variety of communication modalities such as gestures, facial expressions, and vocalizations; however, are not yet using a reliable method of symbolic communication. By using this range of communication modes, linguistic expression and the range of messages conveyed is limited and frequently remains in the concrete realm.

These AAC users may be very young children. They may be older individuals with significant development delays or they may be adults with severe acquired speech and language impairments. Some AAC users fall into this category because they do not have have access to AAC strategies or technologies which would support growth in their expression.

Additionally, AAC users who fall into this category need "maximal support from an AAC facilitator. The communication support person (facilitator) must be able to encourage interaction, understand and interpret idiosyncratic behaviors and support both partners in the interaction." In addition, a facilitator must encourage the augmented communicator to use more conventional expressive forms.

How do we know "the first core words" to emerge in typical language development?

In typical language development, the first words that children use are well documented. Let's meet some of the folks who help us figure out what which core words develop in early language:

Caselli, Casidio and Bates, 2001

In this study of typical language development, 659 English-speaking infants between 8-16 months and 1001 children between 18-30 months all participated in the normative study for the American version of the MacArthur Communication Development Inventory. Two Italian language samples included 195 infants between 8-16 months and 386 children between 18-30 months were taken from the normative sample of the Italian version of the MacArthur CDI.

The MacArthur CDI uses parent report information to assess word production and various aspects of grammar. This study illustrates important information about the high degree of similarity in order of acquisition of "function" words in English and Italian. Notable similarities are as follows:

1. Singular comes in earlier than plural.
2. Pronomial determiner "mine" is the first item in the pronoun class in both languages.
3. "More" is the first quantifier.
4. Person marking follows the same path – first person "I", second person "you", then third person "he," "she," and "it."
5. Subject forms appear before their object counterparts.
6. Question words generally appear in the same order – "what," "where," "why," "how," "when," then "which." "Where" is earlier in English and "who" is earlier in Italian.
7. Connecting words follow the same sequence – "so," "but," "then," and "if."
8. With prepositions and locative words, words that express direction or location of a single element emerge first (e.g. "down," "up," "off," "out," "here," and "there").
9. Locatives that mark a simple relationship of one entity to its base (e.g. "on," "inside," "under," and "over.") generally appear next.
10. Locatives that appear last are those that express a relationship between two entities (e.g. "next to," "beside," and "behind.").

This study not only illustrates how words emerge but which words emerge early in development. Though this study involved only typically developing children, it provides important information about where and how to start when teaching core words with AAC users who have emerging language skills.

Fried-Oken and More, 1992

This single word composite vocabulary list was proposed and formed by collecting single words from the following sources: word lists generated by parents and clinicians of 15 young, nonspeaking children; language samples elicited from 30 typically developing peers matched for age and gender; and word lists generated by parents of speaking children.   After these words lists were collected, database comparisons for word commonality and frequency of occurrence were performed.

The overall result showed that 94 percent of the words generated by the 90 sources compiled were repeated by at least two sources, illustrating that the vocabulary pool for preschool AAC users may be a small manageable set. Forty-six words were common to half of the vocabulary sources and the "mom" appeared on 85 of the 90 vocabulary lists.

This study shows the need for individualized vocabulary for early AAC users but also shows that many of the same words were reported by multiple sources indicating that it is possible to define a set a words to begin with for AAC users with emerging language.

Banajee, DiCarlo, Buras-Stricklin, 2003

The goal of this study was to create a core vocabulary list for toddlers. Naturally occurring vocabulary was collected from 50 toddlers aged 24 to 36 months. Results show that all 50 children used nine common words and the list contained pronouns, verbs, prepositions, and demonstratives. Additionally, words representing different pragmatic functions such as requesting and negating were included.

All three of these studies provide rich insight into which words are common in the core vocabulary of young children. Because of the commonality across lists, it is possible to speculate which core word are important to teach to AAC users with emerging language.

As we are able to determine the core words that AAC users with emerging language understand or are expressing with one of their communication modes, we as parents, educators or clinicians can create interactions that allow AAC users to gain more experience using these core words in different ways, using familiar core words as a basis for multiword utterance production, or to stay on topic or engaged in a chosen activity.

And, as children are able to increase their vocabulary and start putting words together, they are able to begin to work with early syntax (or what becomes known as "grammar") and can begin to gain experience with increasingly abstract cognitive concepts. These language experiences help to create a foundation with which children can participate in negotiation, problem solving, and narrative – all very important skills that play a role in academic participation.

In the book, "The Child With Special Needs," Stanley Greenspan and Serene Wieder (1998) suggest that difficulties organizing purposeful communication is the single biggest challenge for many children with special needs.

"Many children lack the ability to connect their underlying wishes, desires, or emotions to behavior or words that can communicate them…. When we don't quickly find alternative routes for expression and therefore don't use these connections between intent and action, words, or ideas, the connections are weakened as with any capacity that is not exercised" (Greenspan and Wieder, 1998).

Though Greenspan and Wieder are not explicitly making a case for augmentative communication, they strongly suggest that the important people in a child's life have the opportunity to garner a child's attention in a fun and motivating way and to teach language by recognizing the child's individualized communication strategies. By creating rich interactions in play activities, routines, or in social environments, we have a chance to use core words and to allow children to direct the situation using core words.

Greenspan and Wieder also stress that pairing emotions and intentions with words or communicative behaviors allows children to gain a sense of purpose. This sense of purpose fuels the child's interest and motivation to communicate.

"Without sense of purpose or interest – the progression of thinking that depends on purposeful interactions has additional obstacles unfolding. The ability to talk in logical complex sentences ("I don't want to go to sleep") builds on the simpler logic of pointing and saying "cookie!" and the still more complex ability to build logical connections between ideas ("I'm not tired now, but if you let me watch anther movie then maybe I'll be tired") cannot occur without this earlier foundation" (Greenspan and Wieder, 1998).

This illustration demonstrates a strong need for experience with core words. In typical language development, children use words such as verbs and pronouns many times a day. It is the frequency of use of this vocabulary which often opens the door for more sophisticated use of core words and can open the door to using other words that fall into the same category.

For instance, in a 1992 study, Michael Tomasello examined his daughter's multiword utterances during her second year of life. He found that with any given verb's development, new uses of a given verb almost always replicated previous uses and then made one small addition or modification. And in general, the best predictor of his daughter's use of a given verb on a given day was not her use of other verbs on that same day but rather her use of that same verb on immediately preceding days. This underscores, once again, that it is paramount that children who use AAC have opportunities to use core words many many times a day in a variety of environments.

Why is communicative intent so important?

A child's realization of communicative intent is a first step towards linguistic competence. Tomasello, who prolifically studies children's acquisition of verbs, reports when children use nouns and verbs, they are inviting the listener to construe something in a particular way and in a particular communicative context. For instance, words like *that* and *this* help the listener to locate an object or person in actual or conceptual space, word endings like –*ed* and –*ing* help the listener to understand a process in actual or conceptual time.

As a result, the communicative function that core words play in emerging language is paramount. "The essence of concepts lies in function; human beings group together things that behave in similar ways in events and activities." (Tomasello, 2006)

While nouns allow children to communicate experiences as bound entities, verbs can be distinguished by expressing a snapshot in time as a process. When children use these

types of words over and over in everyday life, they are able to categorize words by what the words can and cannot accomplish. And as they marry their communicative intent to word use based on what they would like the listener to understand, they gain broader experiences with single words which can be characterized as a whole utterance, or communicative unit, or can be combined with other words to form an utterance.

Tomasello also suggests that children come to understand intentions as paired with utterances. "When a child communicates a one word utterance, he or she is not trying to share one linguistic unit but rather is attempting to convey an entire goal-directed act, and as single word utterances evolve into multi-word utterances, it is the utterance that conveys meaning and intention while the significance of single words lies in the role that they play in that utterance."

Whether children who use AAC convey one cord word or multiple core words to convey a meaningful utterance may depend on several factors; however, by having a chance to play with these words everyday, we can create a strong base from which they can work to use language in a more sophisticated manner – whether it be to form multiword utterances, to use words for a wider variety of communicative functions, or to stay on topic with important communication partners.

AAC users with emerging language start at the same place as children whose language develops typically. They both begin with communication intent. How this intent is communicated and the degree to which it gains complexity can be influenced with the experiences that he or she has <u>using</u> the core words.

Even at a single word level, intentions can be communicated as detailed utterances; however, it is important the child has experiences with a variety of words and word types so their utterances don't become rote. It is also important to use verbs, pronouns, locatives, and descriptive words so that the conversation does not hit a road block. When communicative interactions are characterized only by the names of concrete objects, places or people we are losing crucial opportunities to use core words to talk about those important entities.

What do early language learners talk about with core words?
Events, People, And Objects.

In the earliest stages of expressive language development, children talk about the observable aspects of everyday life. They also talk about what is more important to them. Typically the important aspects of life are fall into three categories for emerging language learners - **people, objects, and events.** While they are likely to use the names of people, places and objects, they are also likely to use words that encode movement and similiarity between things. They are also likely to use words that connect the names of people with actions or locations.

©Talkabout, Mira Shah, 2008

Events

Children's earliest language is often about events. This is important because daily events often consist of several features:

1. Events consist of human actions that are produced by self or other people
2. Events allow emerging language learners to talk about the observable and sometimes unobservable aspects of movement and how it relates to the people who cause the movement or the objects that engage in the action.
3. Events allow emerging language learners to use words to talk about action without necessarily always using actions words. Words like "in" or "up" characterize action as much as words such as "run" or 'jump." This is important because location words like "in" and "up" may be used more frequently across situations and people.

Talking about events can also be important because it helps emerging language learners distinguish between themselves and other people. By commenting on the observable aspects of events, other people or objects are involved. By talking about events that involve movement of the AAC user, we are asking them to reflect internally and talk about the "internal state" of moving or changes in an internal state. For example, if the event is swinging, the emerging language learner is asked to think about how he or she would like to move his or her own body through space. If the event is rolling a ball to dad, the emerging language learner is encouraged to talk about a concrete object and how it relates to another person. These are two very different cognitive activities which pull in the use of different core words.

When we start with the movement of one person or object and progress to movement two people or a person and an object, we are also engaging in more sophisticated cognitive play which allows the emerging language learner to use core words to talk about causal relations.

So which words are used to encode movement? Studies by Smiley and Huttenlocher in 1991 and 1994 found that children use these words to encode movement. They identified words including "down," "up," "off," "out," "open," "ride," "rock," "sit," "more," "mine," "my," and "there."

The locative language function is often used in early utterances describing events. Locative words, such as prepositions like "in" and "out" are often paired with verbs and nouns to talk about events. Examples are as follows:
      1. Locative-Object – in box
      2. Action-Locative – go up
      3. Agent-Locative – mommy up

Objects

Children may talk about groups of objects on the basis of similarity in appearance across instances. Because objects, such as toys or food or animals, often occur in contexts of movement and change, children may group instances of objects together on the basis of a different perceptual similarity – the simple events in which objects occur. Alternatively they may conceptualize objects not on the basis of perceptual similarities but rather on the basis of similarities on the inside.

A study by Huttenlocher and Smiley, 1987, showed that object word meanings included commonalities in appearance and/or event in which objects tend to occur. In the study, 23 of 25 of the most frequent words – those used by 4 or more out of 10 children studied -- were used over 80% percent of the time for present appropriate instances of objects. This study showed that object word uses encode objects of particular kinds, grouped by their common shape. For instance, "ball" was used for different kinds of balls but also for Christmas ornaments, eggs, and oranges. Other researchers have found that as children's language continues to develop they are able to learn novel object words on the basis of form.

Because the appearance of objects is important to gaining object words, descriptive core words become important. Words like "big," "little," or colors like "red" become the basis for object word groupings. Other descriptive words which characterize the state of an object, like "happy" or "sad," may come next, while descriptive words that illustrate subjective aspects of objects like "pretty" or "bad" also help to provide a different cognitive task when talking about objects.

Additionally, parents' use of object words plays a significant role in the words that children aquire. Smiley and Huttenlocher found a strong correlation between mothers' use of object words at 16 months of age and acquisition of those words between 18 to 24 months of age.

As a result, while we frequently introduce emerging language learners who use AAC to objects such as toys, food or animals, it is very important to talk about the salient observable and descriptive aspects of objects as this serves as the basis for later categorization.

Object words have a semantic function in the single word and multiword utterances in early language. Object words are frequently combined with agent words, the initiator of an action. They are also combined with action words and connected with words that assign attributes to objects. Examples are as follows:

1. Action-Object – read book, get cookie
2. Agent-Object – mommy car, daddy ball
3. Attribute-Object – red car, green ball

People

Some of the earliest words used by children are words that name people. These words are used to name people when they are present and also are used in requesting when people are absent or present. In analysis of language samples by Huttenlocher and Smiley (1990 and 1994), the proportion of request uses with people words was greater than either event or object words. Additionally, use of people words in requests is unique because typically it is used to get the person's attention. With events and objects, those words are used to grant action or entities.

People words serve several language functions in the emerging stages of language development. Frequently people are the agents of action. "Agents" are commonly connected with actions and objects at the multiword level. Additionally, language function of "possession" can require use of people words.

Examples are as follows:

Agent – mom, dad, you, me
Agent-Action – mom read, dad play, baby get
Agent-Object – dad ball, baby cookie, mommy car
Possession – mama, daddy, mine

Teaching Core words in Meaningful Context

John Dewey postulated that genuine education comes through experience. "Every experience is a moving force. Its value can be judged only on the ground of what it moves toward and into (Dewey, 1976)." Dewey also observed that it is necessary for experiences to be interactive and have continuity to move children towards meaningful change. He observed that through thoughtful organization and planning, experiences and activities can be arranged to meet sound intervention goals. A fundamental aspect of activities is that they are meaningful for children while avoiding a succession of unrelated activities. Scattered activities do not provide the opportunity to build on a coherent body of information and neither do they provide for the development of a coherent and integrated self.

In addition to carefully crafted activities, children's engagement is paramount to learning. So what is engagement and do we create it? Engagement can be defined as joint attention between two communicators. This joint focus may encompass both a child and parent's attention turned toward an activity or may be created by communicative exchanges between a child and a parent.

The expression of core vocabulary words in engaged communicative exchanges allows children to grasp the meaning of core words, and as they are able to express those words in additional contexts with significant communication partners, they are repeatedly exposed to how core words work in novel situations. As children gain experience expressing their "authentic intentions" with core words, they become ready to build complexity and meaning by adding words to their utterances.

By engineering the environment and scaffolding conversation in carefully designed play interactions, core words can be used in a new ways to help harness the child's engagement and to maintain their interest. By creating an opportunity to construct novel utterances with core words that assign action or garner an expressive response from a communication partner, child can soak up the experience of the word. By using core vocabulary over and over, they are preparing to pair the word with other words to create utterances with enhanced meaning, and hopefully, they begin categorizing words as well.

In the earliest multiword utterances, children talk about many of the same kinds of things that they talked about when using the semantic pragmatic expression of one word utterances. These early multiword utterances are characterized by *word combinations*, *pivot schemas*, and *item-based constructions*.

Word combinations allow children to take concrete pieces of situation and express their intentionality. For instance, "ball up" encompasses what may have just happened with dad threw the ball in the basketball hoop.

Pivot schemas allow children to more systematically produce multiword utterances to use familiar words and then add on to the utterance with a "variable slot." This linguistic step forward allows the child to start in a familiar place and gain new experiences by filling in the blank with novel words: "more grapes," "more up," or "more dad." The use of pivot schemas is the child's initial exposure to categorizing words by the role they play in the utterance.

Item-based constructions are distinguished from other early multiword utterances by the beginnings of syntactic marking such as word order. In *item-based constructions*, early syntactic tools such as word order emerge to mark the different roles played by different participants in the scene.

Dewey's theories promote the importance of starting with a child's present level of

understanding and carefully crafting experiences in a way that efficiently promotes their progress along a developmental continuum. And, although it is important for children to actively participate in activities for learning, the nature of their involvement is critical.

As parents, educators, and therapists, we want our interactions with the child to be meaningful. As much as children need feedback to make learning meaningful, we seek feedback from the child to structure his or her learning, especially when teaching expressive language development and core word use.

Brown et al (1989) promoted the idea that activity, concept, and culture are interdependent. No one can be understood without the other two and learning must involve all three. "Authentic activity" is characterized by the acquisition of knowledge and learning of skills that occur in real life everyday situations. The knowledge and skills gained from these activities are necessary and useful to deal with real-life tasks and problems.

Brown et al describe authentic activities as….
1. having a logical beginning, a sequence of events, and an ending.
2. fundamental to the child's existence (e.g. requesting) or mirror the demands children face on a routine basis.
3. permitting children to learn and practice skills that will improve their ability to cope with the many demands offered by their physical and social environment.
4. viewed as relevant activity by the child which is evidenced by interest and motivation to become involved.
5. leading children to better understand and respond to their immediate social cultural context.

Sound educational experience involves above all continuity and interaction between the learner and what is learned. Additionally, Greenspan described important capacities that help children create logical solutions: 1) generating ideas from lived emotional experiences and 2) reflecting upon and organizing those ideas.

To actively participate in authentic activities and to reflect upon real life experiences, the use of core words is essential. Creating educational experiences that allow the child connect their intention within the context of the educational activity to words that allow them to participate actively promote the acquisition of words that become the building blocks for more sophisticated participation in the educational process.

For example, maybe the AAC user with emerging language is working with other classmates to paint a mural. Several core words may allow him or her to take an active role in the process. Using words such as "get," "red," "up," "more," and "stop" may guide the child's participation or allow them to tell a friend how they would like to paint. Additionally, those words can eventually be used with other words to convey more detailed meaning and enhance active participation even further.

©Talkabout, Mira Shah, 2008

1. "Get" may eventually become "get paint," "get more," or "get brush."
2. "Red" may eventually become "more red," "red paint," or "like red."
3. "Up" may eventually become "up there," "go up," or "not up."

As the communication partner charged with the task of promoting more sophisticated expression, we are ever vigilant of opportunities in the situation for the utterances to become more detailed or complex. When single word utterances are used, we can promote use of additional core words by using questions such as "what?" "where?" "who?" or "how?"

1. Get what?   "Get more."
2. Who goes up? "Me up."
3. Where does the red go? "red up."

While these ideas and goals are well grounded in the literature, the learning of these skills does not take place in a vacuum. The learning of words without placement in a meaningful context, essentially makes the use of them seem random and aimless (Greenspan and Weider, 1998).

When core words are used in the context of playing cars with mom or dad, leading a game of Simon Says on the playground, or creating an art project in class, children are able to tune into the listener's needs and invest in providing information that will help the listener understand his or her intentions. In essence, when children are invested in the communication experience, core words come to life.

TALK-ABOUT AAC OBJECTIVES

The Talk-about AAC language application can be used as a tool to accomplish much of what was characterized in the previous pages. Talk-about AAC uses "the first core words" which have been well documented through research to allow parents, educators, and clinicians to carefully create play or academic activities. This application can then been used with important communication partners in activities where AAC users with emerging language skills can use core words, gain naturalistic responses, stay on topic, and extend their utterance length.

The objective of this application is as follows:

1. To provide augmented communicators who have emerging language skills with quick and easy access to a wide variety of core vocabulary words that can be used in spontaneous communication to produce meaningful utterances of increasing length.

2. To provide a detailed map for clinicians, parents and educators based on developmental language research, that helps support the teaching of expressive language skills in a meaningful context.

TALK-ABOUT AAC SECTIONS

The Talk-about AAC Language application is divided into eight sections characterized by activities for emerging communicators. Each section is populated with core words, categories of core words (such as describers), and yields access to a category of people and a customizable "fringe" category that can be tailored to each activity.   The people and fringe categories are located on the activity row. The sections are as follows:

1. "Let's Go" -- This section encompasses activities that action-oriented
2. "Let's Read" -- This section is for reading stories
3. "Let's Build" -- This section encompasses activities that focus on spatial skills
4. "Let's Make" -- This section encompasses activities that focus on art or creation
5. "Let's Sing" – This section is for singing and music
6. "Let's Play" -- This section encompasses activities that involve toys or pretend play
7. "Let's Not" -- This section encompasses activities that allow the use to negate actions
8. "Take Turns" -- This section encompasses activities that focus on turn taking

On the home page of Talk-about AAC, each activity is accessible. Additionally, there is a "Talk" category. This category, located on the activity row, can be customized with social language for participation in conversation, joke telling or game playing.

Each section has been organized to promote language and cognitive development using core words that emerge early. The use of these words has been documented in the research studies previously described. Additionally, the words chosen are core words that provide the opportunity to build more sophisticated utterances or allow the AAC user to continue the conversation by making a word choice and then using other core words to keep the conversation going.

For example, the sections in Talk-about AAC include both transitive and intransitive verbs. **Transitive verbs** are action words that eventually take an object. Using these words allow children to participate in actions that differ greatly from each other. Words like **"eat," "drink," and "stop," "get," "open," "eat," "play," and "drink"** can achieve very different results and by choosing to teach these words, we are helping AAC users with emerging language to become ready to communicate divergent needs and eventually begin to use multiword utterances. Also, by initiating use of these words, allowing these words to establish the topic and by extending subsequent communicative exchanges about these words, the AAC user gains more sophisticated experiences which serve as rich fodder to create more sophisticated utterances.

Intransitive verbs allow the AAC user to have distinguished experiences; however, with these actions, there is a single participant and activity. Words like **"go," "come," "fall," "cry," "sing," "sleep,"** and **"laugh"** facilitate experiences where the AAC user does something or asks someone else to do it or asks that an action happens to an object.

Several sections include a **"Where?"** category. Words that encode location or spatial relations are an important. Words such as **"in," "out," "there," "here," "off," "on," "up,"** and **"down"** allow AAC users to experience spatial relations in isolation or also when connected to people. The AAC user can accomplish significant action by using these words, however; when paired with action words such as **"go"** or **"put"** or connected to people such as **"me"** versus **"mom,"** the experience becomes more sophisticated and children begin using pivot schemas and which are very important and powerful linguistic boosts in language development.

Several sections include a **"Describers"** category. Describing words are among the earliest vocabulary used by young children. This serves to identify or assign attributes to objects, people or places. It also is a good starting place for multiword utterance construction that serves to identify an object or to assign an observable attribute to an object, person, or place.

In activities where describing words are important, we can facilitate joint attention to the salient, observable attributes of the objects or people. For instance, "loud," "quiet,"

"big," "little," or specific colors all help differentiate one thing from another. While concrete attributes are a great place to start, there are other describing words that facilitate more abstract or subjective properties, thus, allowing the AAC user to engage in more cognitively challenging activities and intentional language expression. When talking about concepts such as "good" or "bad" we are asking the AAC user to reflect upon aspects of an object or experience. Describing words that assign a subjective state such as "pretty" also challenge the AAC user to reflect on a different aspect of a common object or familiar person.

By using describing words that can differentiate familiar objects, people or places, the AAC user is providing information to the communication partner that helps him or her to specify or direct his or her attention in the activity. It may allow the listener to identify something in space if the AAC user chooses "this or "that." And, it may also allow the AAC user and the listener to compare to objects in an activity.

You will see many of the same core words occur in the different sections of Talk-about AAC. This is to allow the user to have experience using core words in different ways and for different communicative functions.

Although the same words occur in different sections, you will always see the **same** core word in the **same** location. For instance, you will see the word "go" in the third location of the top row of the "Let's Go," "Let's Not," and "Take Turns" section. You will see "stop" and "more" in the last two locations of the bottom row in each section.

In addition to falling in the same location, the core words in Talk-about AAC are color-coded by the linguistic role they play in an sentence. Let's look at the color scheme:

1. Verbs – Green
2. Pronouns – Yellow
3. Adjectives – Blue
4. Prepositions – White

Of special note is the "People" category on the activity row. This category is accessible for every section of Talk-about AAC and it has been placed carefully so that the user may use the people words, which includes both pronouns or specifics names of important people, at the beginning or end of an utterance to create a multiword utterance and enhance his or her message.

The customizable fringe category on the activity row pertains to each specific section and can be populated with "things," "books," or "songs."

Let's take a look at each section.

LET'S GO

Encoding action is typically one of the first language intentions to emerge. The words "go," "come," "stop," and "more," are words seen in the "Let's Go" section. It is well documented that these words are among the first to emerge in typical language development and they allow AAC users with emerging language skills to easily engage and connect with important communication partners, like parents or siblings.

Additionally, "fast" and "slow" can be used as a single word utterances or combined with available action words, people, or fringe vocabulary to start building multi-word utterances in the context of talking about events, objects or people. The categories of "Where?" and "Action" words expands the opportunities for communicative exchanges on the same topic.

This category may be used with objects or people.

LET'S READ

This section allows AAC users to participate in story time by using core words such as "read," "open," or "stop" to direct the reader or by reading. The "Books" category can be used to store story titles or to store repetitive lines from stories so that the AAC user may also read aloud. The "Describers" category gives the AAC user an opportunity to comment on elements of the book or story being read. Utterances may be expanded by using "me" or "you" to direct the person who is going to read.

LET'S BUILD

The focus of the "Let's Build" section is spatial awareness. Use of the words "get" and "put" allow the AAC user to differentiate between these two actions while "this and "that" allow the user to differentiate objects in space. "Where?" words can function as single words or combined with actions or pronouns to expand utterance meaning.

LET'S MAKE

The "Let's Make" section is a chance to color, create art projects, build Mr. Potato Head, or working collaboratively. Words such as "get," "color," and "help" are action words that the AAC user can express to gain materials or assistance. This section includes "Describers" and "Colors" so that the AAC user may make choices with descriptive words but also comment on the project that is in the works. The "Things" section provides a place to include art supplies or other things that would be used to create something (i.e. body parts for Mr. Potato Head).

LET'S SING

"Let's Sing" gives the AAC user the words to connect to music. With words like "sing" and "dance" the AAC user can quickly make action occur with his or her favorite song or music. They can direct who is singing or playing music and whether it is "loud" or "quiet." By including actions, people and describers, there are at least three opportunities to subsequent communicative exchanges on the same topic.

LET'S PLAY

Drama is the focus of the "Let's Play" section. This section provides AAC users with the chance to engage in pretend play using a variety of "Actions" and "Describers." This section may also be used to choose toys or activities with the core words "get," "open," and "play." "Help" may be a good word to keep the conversation going or expand dramatic play skills.

LET'S NOT

Most people have a clear means of protest. The "Let's Not" section aims to expand the ways an AAC user can say "no!" "Actions" are included in this section so that the AAC user can control the situation by requesting an action and then requesting the action cease. "Go" is included as a simple way to either start the activity or to expand the AAC user's experience with negation at the two-word utterance level.

TAKE TURNS

Turn taking is an early communication skill. The "Take Turns" section creates the opportunity to experience turn taking while learning core words that encode this experience. While turn taking serves as the basis for much more sophisticated play and communication, it is also a great way to use action words and assign actions to people. It is also an opportunity for the AAC user to reference his or herself.

Where do we start?

It is always best to know which words kids understand. Also, many kids express core words and concepts with a variety of communication modalities.

Let's find out which words your child or student understands and likes to communicate. For each word, describe how your child or student demonstrates understanding or expression. The blank boxes will allow you to fill in other words and concepts that are important to your child or student.

WORD	With action	In a picture	Gestures	Signs	Eye gaze	Vocalizes	Verbalizes in context
Go							
Get							
Play							
Read							
Come							
Put							
Open							
color							
sing							
sleep							
fall							
laugh							
cry							
stop							
don't							
eat							
look							
help							
turn							
dance							
drink							
in							
out							
there							
here							
off							
on							
up							
that							
you							
me							

this						
everyone						
more						
big						
little						
red						
blue						
yellow						
green						
purple						
pink						
loud						
bad						
good						
fast						
slow						
pretty						
happy						
sad						
don't						
yuck						
not						
no						

Totals

50

25

01

GREEN   BLUE   WHITE   YELLOW
(verbs)   (adjectives) (adverbs)   (pronouns)

Top 5 Words Understood   Top 5 Words Communicated
   1.   1.
   2.   2.
   3.   3.
   4.   4.
   5.   5.

ACTIVITIES

Now match the core words your child or student knows or uses to the opportunities within each activity. Brainstorm possible single word utterances or multi-word utterances and the context in which the utterances might occur. The context might include visual cues, use or toys or props in the activity, or other teaching strategies to engage your child or student. Also think about how you might stay on topic and keep the conversation going during the activity with subsequent communication opportunities.

LET'S GO

1. Activity:

POSSIBLE CORE WORDS___   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS___   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS___   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S READ
1. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S BUILD

1. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S MAKE
1. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S SING

1. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S PLAY

1. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS_____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

LET'S NOT
1. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

2. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

3. Activity:

POSSIBLE CORE WORDS____   SETTING THE CONTEXT
1.
2.
3.
4.
5.

NOTES:

TAKE TURNS
1. Activity:

<u>POSSIBLE CORE WORDS</u>   <u>SETTING THE CONTEXT</u>
1.
2.
3.
4.
5.

2. Activity:

<u>POSSIBLE CORE WORDS</u>   <u>SETTING THE CONTEXT</u>
1.
2.
3.
4.
5.

3. Activity:

<u>POSSIBLE CORE WORDS</u>   <u>SETTING THE CONTEXT</u>
1.
2.
3.
4.
5.

NOTES:

GOING BEYOND

What does your child or student like to do? How do the core words they use or know fit into their preferred activities? Brainstorm activities, possible core words for communication opportunities, the communication mode (i.e. no-tech strategies such as gesturing, sign or facial expressions; low tech icons; or use of a speech-generating device) and provide information about the context which will be provided to support the AAC user in his or her communicative attempts with core words.

PLAY ACTIVITIES	CORE WORDS	MODE	CONTEXT
1.			
2.			
3.			
4.			
5.			

ROUTINE ACTIVITIES	CORE WORDS	MODE	CONTEXT
1.			
2.			
3.			
4.			
5.			

CLASSROOM ACTIVITIES	CORE WORDS	MODE	CONTEXT
1.			
2.			
3.			
4.			
5.			

FAMILY ACTIVITIES	CORE WORDS	MODE	CONTEXT
1.			
2.			
3.			
4.			

FAVORITE GAMES	CORE WORDS	MODE	CONTEXT
1.			
2.			
3.			
4.			
5.			

BREAKING IT DOWN

Now that we have some ideas about favorite activities and the words that go with them, let's break down an individual activity. Every activity has multiple steps that can be used to extend communication opportunities, stay on topic, and to talk about different aspects of an activity. These aspects might include problem solving, working together, describing elements of the activity, or potentially ending an activity and moving on.

ACTIVITY: _____

Activity Steps	Possible Core Words for Participation in each step	Context	Mode

Taking Data

You can keep track of progress that your child or student is making. Documenting the words that your child or student uses will provide detailed information about the words and utterances used and whether it is spontaneous or aided. This concrete evidence can be used to write IEP/IFSP goals, to document data needed to justify the purchase of a speech-generating device, to determine next steps for language intervention or decide if it time to teach new words or multiword utterances or move on a more sophisticated language system with new words and communicative opportunities.

One of the best ways to keep data is to take a language sample. Simply record the utterances that your child or student uses within an activity. You can record the context and whether they used the word spontaneously or with assistance. If you see that a child uses a word spontaneously and frequently, then maybe they are ready to add words and increase their utterance length.

Language Sample

Utterance	Spontaneous/Aided	Mode	Context
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

Staying on topic

In addition to expanding utterance length, it is also important to extend communicative turn taking on the same topic. This can be done by asking questions like "Where?", "Which?", "What?", or "Who?"

It is easy to keep track of communicative exchanges. A communicative exchange can be defined by the following: a child initiates communication with a core word and the communication partner responds. We can keep track of the particular words used in each exchange. Also, it might be help to document the types of words used (i.e., verbs, describers, or pronouns). A great way to do this is with circles. You can use the following diagram to keep track of communicative exchanges. Document the words used during each communicative exchange on a specific topic. If the AAC user indicates that he or she wants to end a topic or shifts topics, then start a new circle.

1 2 3
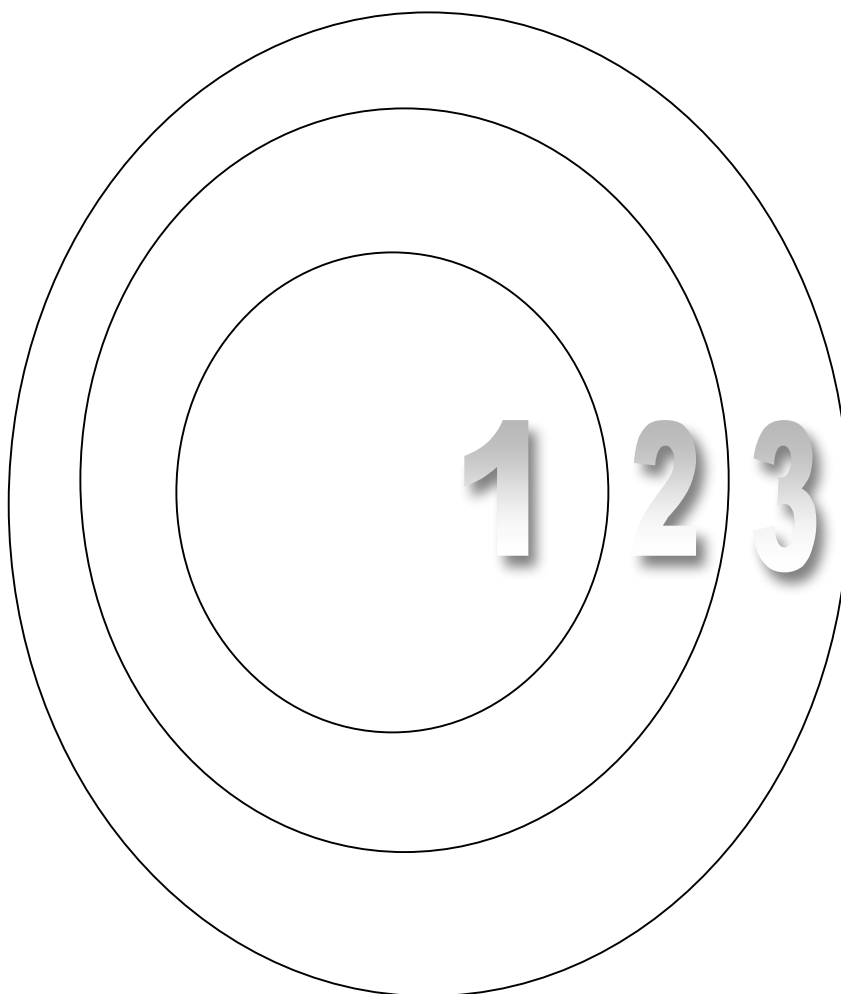
TALK-ABOUT AAC SCOPE AND SEQUENCE

The Talk-about AAC Scope and Sequence provides a detailed roadmap for implementation of goals and objectives. The following goals and objectives are geared to begin at place with language the AAC user understands.

PEOPLE

1.1 Child initiates one circle of communication
1.1.1   Starting with a one word utterance *(ask, describe, protest, comment, direct, tell)*
1.1.2   Starting with a two word utterance
1.1.3   Starting with a three word utterance

1.2 Child initiates two circles of communication *(move it forward with a question – What? Where? Who? Why? Which? How? Did you like it? What happened?)*
1.2.1   Starting with a one word utterance *(ask, describe, protest, comment, direct, tell)*
1.2.2   Starting with a two word utterance
1.2.3   Starting with a three word utterance

1.3 Child initiates three circles of communication *(move it forward with a question – What? Where? Who? Why? Which? How? Did you like it? What happened?)*
1.3.1   Starting with a one word utterance
1.3.2   Starting with a two word utterance
1.3.3   Starting with a three word utterance

OBJECTS

2.1 Child initiates one circle of communication
2.1.1   Starting with a one word utterance *(ask, describe, protest, comment, direct, tell)*
2.1.2   Starting with a two word utterance
2.1.3   Starting with a three word utterance

2.2 Child initiates two circles of communication *(move it forward with a question – What? Where? Who? Why? Which? How? Did you like it? What happened?)*
2.2.1   Starting with a one word utterance
2.2.2   Starting with a two word utterance
2.2.3   Starting with a three word utterance

2.3 Child initiates three circles of communication *(move it forward with a question – What? Where? Who? Why? Which? How? Did you like it? What happened?)*
2.3.1   Starting with a one word utterance
2.3.2   Starting with a two word utterance
2.3.3   Starting with a three word utterance

EVENTS

3.1 Child initiates one circle of communication
3.1.1   Starting with a one word utterance *(ask, describe, protest, comment, direct, tell)*
3.1.2   Starting with a two word utterance
3.1.3   Starting with a three word utterance

3.2 Child initiates two circles of communication *(move it forward with a question –*
    What? Where? Who? Why? Which? How? Did you like it? What happened?)
3.2.1   Starting with a one word utterance
3.2.2   Starting with a two word utterance
3.2.3   Starting with a three word utterance

3.3 Child initiates three circles of communication *(move it forward with a question –*
    What? Where? Who? Why? Which? How? Did you like it? What happened?)
3.3.1   Starting with a one word utterance
3.3.2   Starting with a two word utterance
3.3.3   Starting with a three word utterance

REFERENCES

Banajee, M., DiCarlo, C., & Buras-Stricklin, S. (2003). Core Vocabulary Determination for Toddlers, *Augmentative and Alternative Communication*, 2, 67 – 73.

Bricker, B. and Cripe J. (1995) *An Activity-Based Approach to Early Intervention.* Baltimore, Maryland. Paul H. Brookes.

Dowden, P.A. (1999) Augmentative and alternative communication for children with motor speech disorders. In A. Caruso and E.A. Strand (eds), *Clinical Management of Motor Speech Disorders of Children.* New York: Theime Publishing Co., 345-384.

Fried-Oken, M. M., L. (1992). An initial vocabulary for nonspeaking preschool children based on developmental and environmental language sources. *Augmentative and Alternative Communication,* *8*(March), 41-56.

Greenspan, S. and Wieder, S. (1998). *The Child With Special Needs.* New York. Perseus Books

Tomasello, M. (2006) Acquiring Linguistic Constructions. In R. Siegler and D. Kuhn (Ed.) *Handbook for Child Psychology* (pp. 255-298).

Tomasello M. and Bates E. (2001) *Language Development: The Essential Readings.* Malden, Massachusettes: Blackwell Publishers Inc.

Tomasello M. and Merriman W.E. (1995) *Beyond the Names for Things: Young Children's Acquisition of Verbs*. Hillsdale, New Jersey: Lawrence Erlbaum Associates.