Building Sentences
by
Tracy Vail, MS, CCC/SLP

When should we start working on sentences?
The answer to this depends on the individual child but in general, two word combinations should be targeted as soon as the child has at least 50 "words" that are used to request (mand), and can be receptively identified and labeled (tact) with no prompting. Deciding when and how words are combined into phrases and sentences should take into consideration the current skills of the child. For example, how many words can the child successfully imitate? Does the child spontaneously imitate (echo) long sentences? Is the child able to mand with single words with no prompting? Does the child echo 2 or more words without prompting?

As discussed previously, some children with autism have no difficulty using complete sentences in an echoic or imitative fashion. These children may use sentences in a "cut and paste" fashion but have difficulty combining words into sentences in a flexible manner. For these children, it is very important to "break down" their sentences to be sure they are using each "piece" for a variety of functions and then to build word combinations back up, being sure to continue asking questions requiring some single word responses at times. For example, even if a child is able to say "I see a little red sock on the floor." When he comes into contact with it, it is also important that he be able to respond to "what is that? (sock), "What color is it?" (red), "Where's the sock?" (on the floor) "What size is the sock?" (little). In addition, it would be important to be sure the child is able to use the same sentence form to tact (label) different sizes and colors of socks he sees on the floor and in different locations.

Other children may be able to use single words to request and label items with no prompting but have a great deal of difficulty combining words. There may be a breakdown in articulation of words when the child attempts to use words with multiple syllables and/or when two or more words are combined. For these children, it will be important to slowly increase the length of their sentences as the child will have more difficulty producing words correctly as the complexity of the utterance increases.

As with all other teaching, if the child exhibits escape behaviors or stops spontaneously requesting and labeling things, look at the difficulty of your targets and adjust accordingly. We don't want to lose progress by trying to combine words too soon!

Should children be taught to use all the "little words" such as "a", "the"(articles) to produce grammatically correct sentences or is it OK to teach "telegraphic" or "baby talk" type of word combinations? This is a question commonly asked and there is some disagreement among professionals as to the correct answer. It is probably best for the decision to be based on the needs and learning history of the individual child as well as the age of the child.

Typically developing children first begin forming sentences with incorrect grammar and gradually learn to produce correct word endings and sentences. The problem lies in that once some children with autism learn a "rule" or a specific way of saying something; it is often difficult to change! For these children, it would be important to teach correct grammatical forms or forms appropriate to the situation from the beginning. The "rule of thumb" is that if the child is able to echo the correct form easily, teach it but don't stress word endings at the expense of building longer utterances.

On the other hand, if a child has severe difficulty combining words into sentences and demonstrates more articulation difficulties when the length and complexity of words and sentences increases, it may be beneficial to teach more "telegraphic" type sentences. Our goal is to teach the child to communicate as much as possible. The "little words" that carry little or no meaning in a sentence may

be dropped in order that the child may be able to communicate more complex ideas. For example, let's say a child is unable to imitate more than 4 syllables. If he attempts any phrases/sentences longer than 4 syllables, his articulation becomes unintelligible. For this child, teaching him to say, "read big red dog" to request the Clifford book may be more successful than to attempt to teach him to request the same book by saying, "I want to read the Clifford Book" because "I want to" carries very little "communicative value" and adds a great deal of length and "Clifford" is a difficult word because of the "cl" blend. The point is, look at what is important for the child to be able to communicate to you and teach him a way to tell you based on his current skills. If a response has to be consistently prompted, it is most likely too difficult for the child at this time and it is unlikely that the child will use the response functionally.   Remember, we want the child to be approaching us all day long, telling us what he wants!

In what order should word combinations be taught?
This is another area where there is some disagreement among professionals. Dr. Partington and Dr. Sundberg recommend that a developmental continuum be followed and suggest the following order:

> Noun+ Noun (Two mastered tacts together- ball, car)
> Noun+Verb (ball rolling) Note that verb + noun combinations are given as examples in the manual
> Adjective + Noun (big ball, little truck)
> Verb + Adjective + Noun (bouncing red ball)

On the other hand, Dr. Carbone suggests the following order be used when teaching tacts:

> Noun + Noun (ball and shoe)
> Verbs
> Carrier Phrase + Noun (It's a ball)
> Noun + Verb (ball rolling)
> Adjectives
> Tact item when told feature, function, class
> Tact feature, function, class when told item
> Adjective + Noun + verb (white bear running)
> Tact features
> Tact with carrier phrases, properties and verb (It's a red ball rolling.)
> Tact with carrier phrases, properties and verb (with 2 properties) (It's a little, red ball rolling.)

In his description of the sequence to use to teach mands, Dr. Carbone suggests the following:

> Single word mands for items, activities and actions
> Requests others actions
> Requests with carrier phrases
> Requests others to stop an activity and help
> Requests others attention
> Requests information (asks who, what, where, when, how, which, whose, why questions)
> Requests future events
> Requests using adjectives, prepositions, adverbs, pronouns

Finally, when looking at the way typically developing children learn to combine words (Bloom and Lahey, 1978, Brown, 1973) we find that children first begin combining a series of single isolated words without regard to a specific order. These isolated words may occur with or without co-occurring jargon. For example, a child may say, "mommy" (looking at mommy) "doggy" (pointing to doggy) to

request his mother's attention to a dog. Pauses between the words, equal stress and falling intonation patterns separate the two words as individual utterances. When children begin combining words, they typically do so in a manner that indicates the relationship between the words. For example, when the "noun" is completing the action, the noun comes before the verb. (Ex: mommy sit, doggy bite). When the noun is the thing being acted upon, it typically follows the verb (ex: hit ball, drink juice). The following combinations or semantic relations are typically the first to be used by typically developing children:

> Agent + action- *noun + verb* (mommy push)
> Action + object   *verb + noun* (eat banana)
> Agent + object   *Noun + noun* (boy (kick) ball)
> Action + location *action + noun* (jump bed)
> Entity + location   *noun + noun* (mommy kitchen)
> Possessor + possession   *noun + noun* (mommy(s) shoe, daddy(s) nose)
> Entity + attribute-   *adjective + noun* (red car, cup broken)
> Demonstrative + entity   *pronoun + noun* (there cookie, this doll)

In addition, research in the way typically developing children learn language demonstrates that when children begin to acquire longer sentences, they typically either combine previously learned word combinations or expand one such as learning "daddy throw" and "throw ball" being combined to "daddy throw ball", or learning, "big ball", "throw ball" and then combining "throw big ball".

As we know, children with autism do not often develop along a "typical" continuum, however, looking at the developmental literature in combination with the specific functions (verbal operants) of language may give us the best information needed to determine how and what to teach with regards to word combinations.

If we accept that the mand (request) is the only verbal operant (function of language) to directly meet the needs of the child, it seems to follow that the mand should be used to teach most word combinations just as it is used to teach "first words". The child should first be taught to clarify requests using two word combinations and then these mands (requests) should be transferred to two word labels (tacts). The word order taught (i.e. noun + verb, adjective + noun etc.) would depend on the request the child is making and the correct "grammar" of the combination when it is transferred to a tact. For example, instead of just manding (requesting) a cup, the child might be taught to request one of two available cups which would require the use of an adjective to clarify the request. For initial teaching, the instructor might say each option in a questioning manner: "Red cup? Blue cup?" Or, the instructor might wait for the child to reach towards a specific cup, give an echoic prompt for the mand and then fade the echoic prompt. Finally, the response can be transferred to the SD, "Which one (cup) do you want?"

When transferring to the tact, the instructor would simply say, "Tell me about this." Or "Describe this", immediately after the child has used the two word combination to get the same two word response as a tact. Later, the instructor would repeat the SD for the tact response (SD ="Describe this" in the presence of the blue cup) to separate it further from the transfer trial.

If a child requests a specific action from a person, such as "mommy walk", the tact transfer target would be "mommy walking" (noun + verb).   On the other hand, if the child requests that an item be acted upon, such as "open juice", the transfer to tact would be "What are you doing?" R= "opening juice".(verb + noun). In either of these cases, an echoic prompt would have to be provided given that the verb form changes.

Using the above reasoning for choosing targets results in less of an emphasis on specific combinations to be taught in a sequential fashion and instead focuses on a wide variety of different word combinations depending on the objects and actions in which the child is interested. Nouns, verbs, adjectives, prepositions and adverbs may all be chosen in combination with one another.

Teaching techniques for word combinations/sentence formation

1. Mand to Tact transfers- One way to teach combinations is to transfer from the mand (request) as described above. The child is first asked to clarify their request, then the response is transferred to the tact. Example:

      Instructor: "Which ball do you want'?
      STUDENT: "Blue ball."
      Instructor: "Tell me about this. "
      STUDENT: "(It's a) blue ball."

2. Building tact combinations- This teaching procedure involves using responses the child has mastered to "build" longer and longer utterances.   Example:

      Instructor: "What's the boy doing?"
      STUDENT: "Kicking." (mastered response)
      Instructor: "What's he kicking?" (touching the ball)
      STUDENT: "Ball." (mastered response)
      Instructor: "That's right! The boy's kicking the ball.   What's happening?"
      STUDENT: "The boy's kicking the ball." (echoic)
      Instructor: "Good job! Tell me what's happening?" (transfer trial)
      STUDENT: "The boy's kicking the ball."   (BIG reinforcement!)

Once the child is able is consistently using the phrases to respond, they can be combined to form even longer utterances. Example:

      Instructor: "What's happening?"
      STUDENT: "The sleigh's flying. "
      Instructor: "Which sleigh?"
      STUDENT: "The little sleigh."
      Instructor: "Where is it flying?"
      STUDENT: "In the sky."
      Instructor: "Tell me about this."
      STUDENT: "The little sleigh's flying in the sky."

3. Expanding Utterances- A technique often used with typically developing children is to reinforce their correct utterances and also add one more word/phrase to tact the environmental event. This technique can also be used with children with autism and is especially successful with children with a strong echoic. Example:

      STUDENT: "car" (pointing to a picture of a car in a book)
      Instructor: "That's right! Red car"
      STUDENT: "red car."

This can also be accomplished by using a "fill-in" type task. Example:

Instructor:　　"Tell me about this."
STUDENT:　"Mommy sleeping."
Instructor:　　"Right! Mommy's sleeping _____ "
STUDENT:　"In the bed."
Instructor:　　"Right!　Tell me about this."
STUDENT:　"Mommy's sleeping in the bed."

4. Contingent Comments- Once a child has learned to make comments which are associated with your comments, a variety of sentence forms are easier to teach. You might start by teaching these with simple mands. Example:

Instructor:　 "I want a cat." (as you take the cat)"
STUDENT: "I want a dog." (prompted as he takes the dog)

Later, other sentence forms can be taught. Example:

Instructor:　"I have a red marker."
STUDENT: "I have a blue marker."

Things to be aware of when teaching combinations

1. <u>Continue single word responses when appropriate</u>.   Remember to continue to go back and be sure the child is able to give single word responses and to respond to questions appropriately.

2. <u>Teach the child conditions under which further information is needed.</u> We want to be sure to teach the child when it is and is not necessary to use descriptors and clarifications. For example, let's say a child is at the butterfly garden with hundreds of butterflies present and he wants his mother to see a particular butterfly. In this context, saying, "Mommy, look at the butterfly!" would not be enough information. He would need to request that she look for a very specific butterfly in a specific location. "Mommy, look at that blue and white butterfly at the top of the cage!" On the other hand, if there were only one butterfly present in the yard and the child wanted to show it to his mother, saying, Mommy, look at that orange and black butterfly on the purple flower" would indeed sound a bit "odd" as it would be more information that needed for the situation.

3. <u>Be careful to reinforce correct combinations even if you don't get the combination you had in mind!</u> It's easy to get so focused on a specific target that we forget to really listen to what the child is saying! For example, if you have a "color + noun" target in mind when asking the child which sticker he would like, be sure to reinforce if he mands for the "shiny dog sticker"! (I've actually seen a correction procedure run on this so don't laugh!)

4. <u>Be sure to teach words in a wide variety of combinations to avoid responses getting chained together</u>. For example, teach multiple objects with the same adjective (big ball, big house, big shirt, big pants) and the same object with multiple adjectives (big shirt, blue shirt, striped shirt, warm shirt)

5. <u>Be careful that you are not requiring so much that the child is no longer making an effort</u>. If you see a drop in manding (requesting) after beginning to teach word combinations, the target response may be too hard for the child. For example, if a child is manding using single words

with no prompts but stops or greatly reduces manding when an adjective is added, back off a bit or reinforce each response as a single word and combine the words as a model for the child without requiring the combination as a response.

> STUDENT: "Cookie."
> Instructor: "Which one?"
> STUDENT: "Big."
> Instructor: "Big cookie!" (*as she gives the child the cookie*)
>
> (*If the child begins requesting a cookie with the word "big", be sure you have him say "cookie" before getting the cookie!*)

6. Some professionals suggest beginning to increase the length of utterances with carrier phrases. While this may be fine for some children, <u>stress function of the words used to expand utterances for children who have difficulty imitating longer utterances</u>.