Important AAC Device Features, the Center for AAC and Autism

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Feature	Reason
Single words	When speaking, we put single words together in unlimited ways to express whatever is on our minds. One of the reasons language is possible is that we "make infinite use of finite media." (Pinker, 1996) ASHA AAC glossary states that, "communication is based on the use of the individual words of our language. True communication is spontaneous and novel. Therefore, communication systems cannot be based significantly on pre-stored sentences www.asha.org/public/speech/disorders/aacPrimer.htm Being able to speak individual words allows the speaker to attach specific meaning to each word. Someone with auditory processing problems may not be able to segment speech. That means they may have difficulty distinguishing each word of a phrase as an individual unit. Think of how an unfamiliar foreign language sounds to you. Can you tell where one word ends and the next begins? The ability to use a phrase appropriately does not mean the individual understands the meaning of the individual words in that phrase. If you don't understand the words independently of each other, how will you be able to put them together in different ways to form new phrases?
Consistent, easy access to most commonly used words (core)	Core words are the most frequently occurring words. These words are dispersed throughout typical utterances; they are the glue that binds and gives meaning to the other words. The 100 most frequently occurring words account for 60% of words communicated. "For most people, about 85% of communication is accomplished using just a few hundred words." Vanderheiden, G. C, and Kelso, D. P. (1987) Core words tend to be words that are not easily represented by a picture, so don't worry about the symbol. The symbols used on an AAC device do not have to be concrete pictures. However, their location on the device needs to be stable so that the device user can rely on motor plans for quick access.
The motor plan or sequence to "say" a word is unique and consistent	In typical speech, our attention is directed to the conversation, not to articulating/saying the words. In order for an AAC user to develop this same "speaking" automaticity, he can't be consciously thinking about interpreting or locating icons. For automaticity to develop, each word needs to be accessed by a unique motor plan that once learned, never changes. Two words cannot share the same motor plan.
A large vocabulary with minimal sequencing	The vocabulary available needs to be large enough to communicate wants and needs. This vocabulary needs to be accessed with the least number of keystrokes. Therefore, the more icons on a screen the better. Make the icons as small as the child can accurately access. If the amount of available icons is distracting to the child while teaching, hide the words that you are not teaching.
Multi-meaning icons	In a language system that utilizes multi-meaning icons, the same icon will be used in different patterns to say several different words. The picture on these icons is usually somewhat abstract in order to convey all the meanings it represents. Each icon does not have a one-to-one correlation with a word or a particular meaning of that word. Multi-meaning icons are beneficial because….. 1. They allow less sequencing (shorter motor plans) and enhanced rate of communication. 2. They eventually allow the individual to have a large vocabulary with hundreds or

	thousands of words; a single meaning icon system would need to have lots of pages which would require the cognitive skills to navigate through the system and/or much sequencing (longer motor plans). 3. A word based system paired with multi-meaning icons makes it easier to use the same icon/icon sequence to say a word to represent all the meanings of that word. For example, the word "go" has over 300 definitions; however, they can all be represented by one icon or icon sequence. There would be no need to have a different picture to represent all the meanings, or different ways to access the word based on the activity or context. Abstractness of the symbol may be a benefit when applying it to all the meanings of a word.
Quick screen re-draw time	Once an icon is pressed on a dynamic screen, the next set of options should appear almost immediately. If the child must wait while the screen refreshes, attention may be lost. Also, when learning the motor plan of accessing two icons on different pages, a delay would make it more difficult to learn by adding a timing element to the movement.
Quick auditory response after pressing icons	Quick association between motor movement and voice output is needed for the child to link the motor movement to the auditory output.
Language software that allows progression from 1st words to complex language	As a child's language skills progress and there is need for new vocabulary, the language software on the device should allow for minimal motor re-learning. If not, the automaticity that the child has developed is compromised as he has to learn a new system. This can be frustrating and discouraging when the device does not work the way it has previously.
Quick and easy masking feature	The ability to hide vocabulary while learning targeted vocabulary provides the opportunity to teach vocabulary while minimizing distractions yet maintaining the motor plan that will be used when all vocabulary is available. When teaching, if this hide/show process takes an excessive amount of time, the child may become distracted or lose interest
Digitized and synthesized speech	Digitized speech is actual recorded speech. It is beneficial for recording motivating sayings or humorous noises. It allows for a phonics page so the child can put sounds together to form words. However, when a device only has digitized speech, a child can not spell a word then hear the word. When you try to combine digitized words together to say a longer phrase, the inflection is not natural. Synthesized speech is computer generated speech. Uses of synthesized speech are not limited to prerecorded messages but can create any message.