

ALTERNATIVELY *A* SPEAKING

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AAC 101: A Crash Course for Beginners



Anyone who has sought help for a speech related disability is bewildered by the strange new world of augmentative and alternative communication (AAC). Strangers poke, prod, test and cajole you to find out the nature and extent of your disability. And there is the language. People keep using words you've never heard before. You suspect they are talking about you, but you can't be sure.

Sound familiar?

Welcome to what I call AAC 101. Just what is augmentative and alternative communication? In plain English, if you sound as if you have a mouth full of oatmeal when you talk, there are people and things to help you communicate by means other than natural speech.

Who? These people who know about AAC can be speech-language pathologists, occupational therapists, educators, engineers or others. I will refer to them as "AAC professionals" or "communication specialists." AAC is complicated and requires the participation of many people in many different roles. Sometimes they work as an AAC team. Vital members of the team are the person who uses or hopes to use AAC to communi-

cate, and his or her family. (Yes, you!) A team may also include an administrator, payer, vocational rehabilitation counselor, physical therapist, visual impairment specialist, manufacturer and his representatives, and anyone else who may be able to help you communicate better.²

What? Things that can help you communicate include parts of your body as well as assistive technology.

Gestures

Fortunately the importance of gestures as a communicative tool is now recognized by communication specialists. Everyone uses gestures and facial expressions to communicate. The next time you are watching your favorite comedian or politician (perhaps they are one in the same person) look how she uses her hands and face to season what she is saying. If you use some gesturing, try to build on this skill.

Gestures can get you a cup of coffee in the morning, but they do a poor job of telling your friend about that delicious piece of cake you had the other night. Gestures can only express things in the here and now. Also, gestures are poor candidates for expressing things like truth and beauty.

Symbols

To be able to talk about such abstractions as well as the past and the future, we use symbols. Symbols are visual, auditory, and/or tactile representations of conventional objects, actions, ideas or whatever.² Photographs, manual signs, pictographs, objects/textures, printed words, spoken words, and Braille are all symbols.

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AAC 101: A

When I was growing up in the nineteen forties and fifties life was very simple for people with speech disabilities. If you were lucky you got hooked up with a speech therapist—that's what they were called in those days—and you were subjected to several hours of intense articulation and breath work a week. That was it. You either learned to talk or you didn't. And if you didn't learn to talk, you were considered lazy and uncooperative. There was no middle ground; in fact, if you even suggested that there might be another way to communicate, you and your parents were given a stern lecture on the virtues of learning how to talk.

I had my last appointment with a speech therapist somewhere in the mid fifties and then got on with my life. When I reconnected with the field twenty years later, I was amazed. Everything had changed. Speech therapists were now called speech language pathologists, and learning how to talk wasn't considered the primary goal of the work. And there were tools: letter boards, picture boards, and even crude speech synthesizers. I surveyed all of this while the words of a rock song ran through my head, "Something's happenin' here/ What it is aint exactly clear."¹⁶

What it was was augmentative and alternative communication (AAC), and it has been a part of my life ever since.

In this, the premier issue of *Alternatively Speaking*, you will read some very basic stuff about AAC. Things like just what *is* augmentative and alternative communication anyway? I think there is a lot of confusion about the basic concepts of AAC. Everybody talks about it, but few know quite what it is.

Also, in all the issues of AS you'll notice that the "you" I refer to is the consumer. This reminds us who is at the center of our work. When you finish this issue of AS, you won't be ready for graduate school, but you'll be able to carry on a more satisfying conversation with an AAC professional the next time you run into one.

AS



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We use four main kinds of symbols in AAC: spoken words, written words, signs, and graphic symbols. The symbols on a communication aid are called *graphic symbols*. The meanings of some graphic symbols are very easy to guess just by looking at them. Others aren't so easy to figure out; while still others are almost impossible to decode. Linguists divide symbols into three types: transparent, translucent, and opaque.² These qualities refer to the guessability of the symbol—whether you can tell what the symbol means just by looking at it. Transparent symbols are easier to guess than opaque symbols. This assumes there is universal meaning to some symbols, but actually the broader and richer your life experiences, the more breadth of meaning you give to symbols. One begins to make personal associations. If I'm shown a photo of a cup and start thinking about Uncle Buck's birthday party last year and those steaming mugs of great hot chocolate, I'm using a personal association, because nobody else would think of this just by looking at the picture of the cup.

Once you know a symbol's meaning it is easy to believe that the meaning is obvious, even intuitive, to everyone. This isn't the case at all. We learn those meanings; they don't pop into our heads. Also, people have varying ability to decode symbols. So they must be taught. Today, I may see a photograph of a cup and say to myself, "Yep, that's a cup alright," but I wouldn't know a cup is a cup if my mother hadn't pointed to a cup and screamed the word "cup" into

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Crash Course for Beginners

Over forty zillion times when I was a toddler. Teaching the meaning of the graphic symbols to be used on a communication display is one of the keys to AAC success, yet it often gets overlooked in the rush to do other things. Remember, nothing can be assumed.

Graphic symbols and communication displays

Now let's look at how graphic symbols are used on non-electronic communication devices. The primary feature of these aids is the *communication display*. A communication display is a logical arrangement of language items grouped within physical boundaries for easy access.³ Communication displays include letterboards, alphabet cards, symbol boards, eye gaze systems and even pictures on the cub wall. While non-electronic communication displays are often considered slow and inefficient, they can be extremely quick when used by a skilled communicator talking to an equally skilled partner.

Communication displays are fairly inexpensive and easy to make. The tricky (and costly) part is the design. Much thought and activity goes into a communication display before it is actually produced. One of the most important elements the AAC team works on is vocabulary selection. No matter who you are, adult or child, vocabulary is your potential key to power. People who control what goes on your communication display control what you do with your life by deciding what you can say. It is vital that you and your family play a critical role in the selection of the vocabulary. You need lots of it – more than you think, and you'll need even more as you go along.

Once the vocabulary is selected, graphic symbols that will best express it and will work best for you and your communication partners are selected. The whole AAC team, especially the consumer and family must understand the rationale for selecting the graphic symbols which will be used.

The communication display designer(s) consider the size and arrangement of symbols, and a person's reaching and pointing abilities. These and many other *physical and cognitive factors* go into the design of a communication display before any symbols are arranged on a surface.

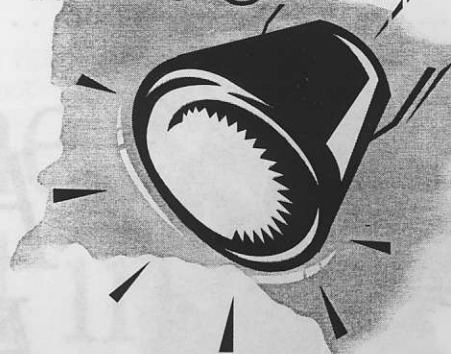
Organizing a Display

Once you decide on the physical shape of the display and the symbols to use, the next task is to organize them in a logical way. I am a chronic reader. I read everything I can get my hands on. If I were to dump everything I read in the middle of the living room floor, not only would I make my wife very unhappy, I would never be able to find anything I wanted, so I categorize my reading materials in various ways.

The same thing applies to communication displays. You can't start dumping language items on a display every which way and expect them to be easy to use. Language items must be organized in some sort of logical manner. Here are some of the ways to do this.^{3,12}

- **Thematic:** groupings based on events such as going out to eat, watching a baseball game, attending church or visiting grandmother.

IN THE SPOTLIGHT



- **Categorical:** groupings based on categories such as clothes, food, people or feelings.
- **Semantic and syntactic:** groupings based on knowledge of grammar.
- **Alphabetic:** groupings based on the alphabet.
- **Frequency of use:** groupings based on placing the most frequently used symbols on the display where they can be easily accessed.

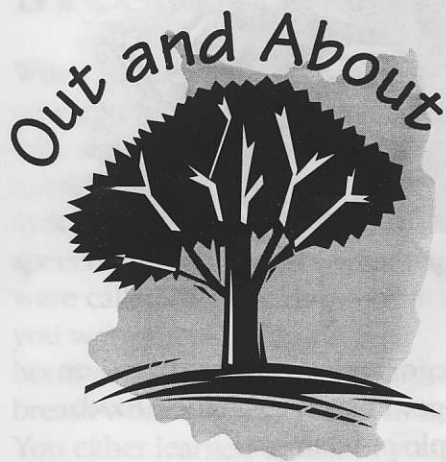
The person who will be using the communication display must participate fully in organizing it. The organization will depend on your needs and skills, as well as those of your partners. One person's intuitively logical organization is another's hodge-podge.

Communication Display Design:³

- Vocabulary
- Graphic Symbols
- Physical factors
- Visual factors
- Cognitive factors
- Organization

The phrase "only one to a customer" definitely does **not** apply to communication displays. You will probably get several at a crack and acquire more over time as your communication universes expand. You'll want one for each activity that you do; whether you are on the job, at home watching television, or at the old ballpark enjoying a hot dog and a beer, you'll need to communicate.

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How do you say Hamburger?

Going out to eat can be a very enjoyable experience. But for those of us with speech disabilities, the process of doing this simple thing can be daunting. If you use a wheelchair, just getting to the restaurant can be a royal pain. Is the restaurant accessible? Is the restaurant within wheeling distance? If not, do you have an accessible form of transportation you can use? Can it be summoned immediately, or must you make reservations several days in advance? And finally, once the transportation is at the door, I always wonder, will the lift work?

You're now in the restaurant looking forward to a good meal. Your server hands you a menu and you start looking it over. When you decide on what you want, you must decide whether the generic "hamburger" which is in your speech synthesizer will give your server enough of a clue, or do you really have to type in "double char-broiled Southwestern burger" —that long name they have for meat patties these days? You decide to take the safe route and type in that fancy name, but you must be quick because the server is on his way over to your table. "May I take your order, please?" A confused smile flickers

across his face as he realizes that you are no mere mortal among the lunchtime crowd. You hit him with your best shot, a synthesized blast, the best the computer world has to offer.

It doesn't work. The guy doesn't understand. He has that blank look on his face mixed in with apprehension. "Could you repeat that, please," he says. You do, with the same result. You're both sweating now, trying to think of a way out of a desperate situation. Suddenly you grab the menu and start pointing away. Luckily it has lots of pictures on it and there can be no doubt as to what you want. When your food comes, you try to relax and make something nice out of what has been a very frustrating situation. You leave the restaurant wondering if you will have the courage to come back again another day. But deep down in your heart you know you will because this is your life and you must live it to the fullest.

This compilation of events has occurred many times in my life, and I bet you've had similar experiences. In a study ponderously titled "Initial comparisons of the efficiency of a variety of AAC systems for ordering meals in fast

food restaurants,"⁶ a group of researchers compared the effectiveness of a non-electronic communication aid with communication devices with speech synthesis. Even though early electronic technology was used, the results are interesting.

Experiment One

Two experiments were conducted. In the first, a picture communication wallet was compared to a Light Talker¹³ with Echo speech synthesis. The communication device users were also equipped with a 3" by 5" introduction card which said, "Hi! I don't talk. I will use this device to place my order."

The settings for this first experiment were 56 fast food restaurants in Minnesota. Success was measured by the number of requests for clarification of the order; if the order was not placed within two minutes, the episode was considered a failure.

Experiment one showed that people who used picture wallets had better results in getting their orders filled than did the people using Light Talkers. The researchers gave two main reasons for this: The noise in the restaurant was quite loud and the voice quality of the

Time to Get in the Mix

Echo speech synthesizer was rather poor. Some listeners did not know whether to listen to the Light Talker or read its display.

Experiment Two

Experiment two also took place in Minnesota. It compared a picture wallet to an ALLTALK¹, a F² Voice¹⁺ with a printer, and a RealVoice without a printer. The voice output devices were tweaked beforehand to maximize intelligibility. The researchers also created more detailed introduction cards with exact instructions for the listener. The results of the second experiment indicate that the improved quality of the voice and the use of detailed instruction cards can dramatically improve the efficiency of ordering. Although the picture wallet was still the fastest system, the voice output devices proved to be almost as good.

This comes as no surprise to veteran AAC users. A brief written introduction works wonders when you spring an AAC device on somebody for the first time. It really puts people in a listening mood. Try it sometime, you may be amazed by the results.

A

Communication can't happen in a vacuum. Communication happens in that vital pulsing web of social interactions that is a part of most of our daily lives. Whether we are at home, at work, or at play, we spend a good part of our day talking to people.

I recently had an experience with my then nine month old daughter that highlighted just how strong the urge to socialize can be. I was having a

conversation with a friend; my daughter was sitting in her high chair half hidden in a corner. She started yelling very loudly. "She wants to be 'in the mix,'" said my friend. When we scooted her closer to us, she resumed a more appropriate level of infant discourse.

Everybody wants to be in the mix. But for those of us with communication disabilities, it's not easy. Whether we have our disabilities

at birth or acquire them later in life, communication disabilities have the same effect: they take you out of the mix. You are a spectator, half hidden in the corner. Even if you want back in, you are probably too scared, because communicating when you have a speech disability means taking risks. After all, if you try to communicate somebody might laugh at you, or think you are stupid, or get annoyed with you because you are taking too long to

say what you are saying. Who knows, you might be holding up the wheels of progress. So you sit there on the sidelines and watch life pass you by year after year after year.

I have news for you. The only thing keeping you from getting in the mix is your own fear of what you think might happen. Come out of the shadows. Peek around the corner. There's a party going on and you're invited.

A



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Sign Language

Another way to communicate is with sign language. It was developed in France in the eighteenth century for use by people with hearing impairments. Sign language has spread throughout the world with as many variations as there are countries. People in the United States primarily use American Sign Language (ASL).¹⁵

Great interest has been shown in teaching sign language to people with significant communication disabilities. This interest was inspired in part by attempts to teach sign language to chimpanzees. If a chimp could learn to communicate with sign language, why couldn't a person with mental retardation?⁵

People who successfully use manual signs have good manual dexterity, have good motor sequencing skills, and have the cognitive ability to associate a hand movement to a particular object or event.⁸

Since sign language is an unaided communication system, you don't need anything but your body to use it; it can't get lost; it can't be broken; and you can't forget to bring it with you.⁸ On the other hand, there are some major disadvantages to sign language. Both communication partners must know sign language, and this limits who you can talk to. Institutional settings present special problems

The consumer has:⁵

- Preferences
- Attitudes
- Commitment to learning
- Abilities

AAC Success is the ability to:⁵

- Exert power
- Affect environment
- Spontaneously indicate your ideas and desires

for people who use sign. Because of staff turnover, staff must continually be trained and retrained in the use of sign.⁸

The use of sign language by people who hear and don't speak is not the best choice for as many people as initially thought, and it is never the only choice. Still, manual signs are useful for many people.

The importance of environment

The environment of a person affects how successful she will be in learning various components of her communication system. If the person does not live in an environment that accepts AAC as a meaningful form of communication, learning will not occur.⁵

An ideal learning environment is filled with social interaction. Social interaction among learners and competent AAC communicators is particularly important. But the reality is that most people do not live in this kind of environment.

Which gestures, AAC symbols, aids, signs and devices you end up using depends on what you are like. Your communication system must fit YOU: your preferences, attitudes, commitment to learning and abilities. You will know your system, with all its AAC components, is working for you when it gives you the ability to exert power, affect your environment and spontaneously indicate your ideas and desires. S

Stephen Hawking, who has Amyotrophic Lateral Sclerosis (ALS), is a world class physicist, best selling author, much sought after lecturer, and arguably the best known non-oral person on the planet. His *A Brief History of Time*¹⁰ was on the best seller lists in the United States for over a year. During his tour of the states Hawking packed college auditoriums and people hung on every word as he expounded on the history of the universe. He is a scientist-superstar of the first rank.

Hawking has a new book called *Black Holes and Baby Universes*.⁹ In it he muses on such questions as *Is the End in Sight for Theoretical Physics?* and *Is Everything Determined?* Just the sort of stuff you'd discuss with your wife over morning coffee.

Mixed in with scientific essays are short biographical pieces that give glimpses into Hawking's childhood and education. Although he tries to portray himself as growing up in an average family, clearly this family is far from ordinary. Both his parents were Oxford graduates. His father was a doctor, and young Stephen used to pal around with the son of poet Robert Graves. We should all lead such ordinary lives. Hawking liked to disassemble mechanical toys and build model airplanes, and by the age of thirteen he knew he wanted to study physics. He writes, "physics and astronomy offered the hope of understanding where we came from and why we

were here. I wanted to fathom the far depths of the universe.”

Perhaps the best of these personal articles is “A Brief History of a Brief History of Time” in which Hawking explains why and how he wrote his best-seller. Why? He wanted to explain how far we have come in our understanding of the universe, and more pragmatically, he needed to raise money for his daughter’s education. How? He simply went about writing a best selling book. Hawking turned down a lucrative offer from an American publisher of academic books to go with the mass market oriented Bantam books, because they knew how to “put books on airport book racks.” The rest is History.

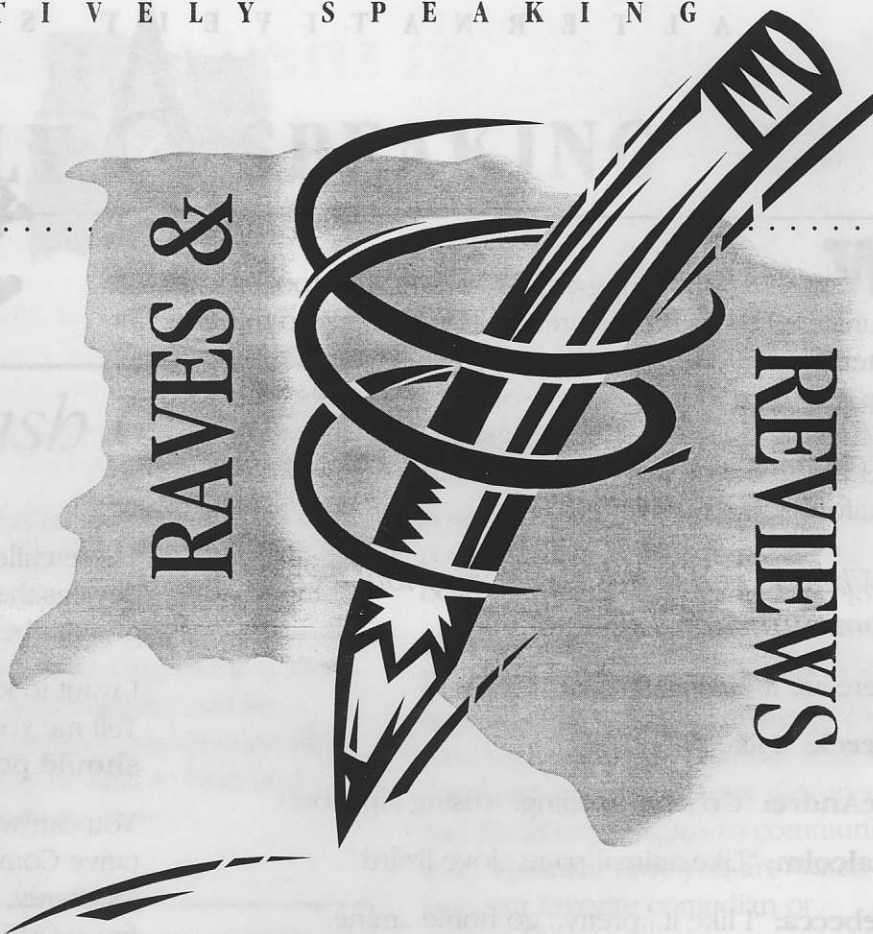
Hawking has been accused of helping his publishers shamelessly exploit his disability to sell more books, a charge Hawking vigorously denies. He points out that his contract with Bantam did not give him control of the cover art of the American edition, which uses an absolutely miserable photo of Hawking superimposed on a picture of the cosmos. The whole thing looks rather ridiculous, like a stellar driver’s license photo. He says Bantam has refused to change the photo on subsequent editions of *A Brief History...* because the public now identifies that photo with that book. Don’t you just love public relations mentality?

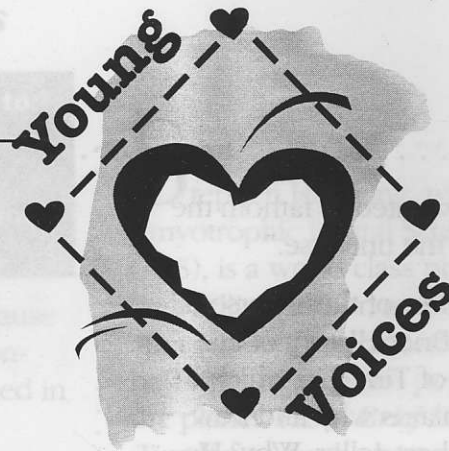
So why did the book sell so well? Surely the sympathy factor didn’t hurt. That photo makes some

people reach in their pockets and cough up the necessary cash. Then there is the great person factor. Some people like to buy books by Shakespeare, Homer and Virgil, and put them on their bookshelves like so much intellectual decoration. I’m sure that a book by the hottest scientist around looks mighty impressive up there on the shelf. One British reviewer suggested *A Brief History...* could become a “cult classic.” Hawking notes with some pleasure, “My wife was horrified, but I was rather flattered to have my book compared to *Zen and the Art of Motorcycle Maintenance*. I hope, like *Zen*, it gives people the feeling that they need not be cut off from the great intellectual and philosophical questions.”

I bought *A Brief History...* because I wanted the thrill of owning a

book by a scientist who is the equal of Albert Einstein, and I wanted to support one of our own, a non-oral person who has beaten all odds and is now at the top of his profession. When I read one of his books or see him on television, I know that Hawking’s accomplishments will encourage more people with severe disabilities to consider careers in science. This option was not available to me when I was growing up; in fact, the educational powers at the time discouraged me from taking science classes, because they feared the possibility of some horrible accident. I am the poorer for it. What little science I know comes from books such as Hawking’s, and I appreciate that he has taken the time to write them. **A**





When I was a young child I had no AAC tools. I communicated by using gestures and by pointing to things. Later, I learned to use my grandfather's typewriter. It was fun. Children today have all sorts of AAC tools. I decided to find out if they like them. I asked some 7- and 8-year old children who go to Le Conte School in Berkeley, California the following question:

"What do you think about your low-tech communication system?"

Here are their answers:

Derek: "I like it."

DeAndre: "Go slow spelling." (using alphabet)

Malcolm: "Like animal page...love lizard."

Rebecca: "I like it...pretty...go home...mine."

Thomas: "I like it...It's awesome!"

These children feel about their communication devices the way I felt about that typewriter of my grandfather's. What do you think?

I want to know why people should learn to read. Tell me your answer to this question: **Why should people learn to read?**

You can write to me, Michael Williams, Augmentative Communication Inc., One Surf Way, Monterey, California, 93940. You can send me a fax at (415) 646-5428. Or you can send me electronic mail at mbwill@well.sf.ca.us

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