

## Visual Strategies & Beyond!

Musselwhite, 09

[www.aacintervention.com](http://www.aacintervention.com)

## Visual Strategies & Beyond!



Focusing on the  
'Strategies'!!

## Characteristics of People Who Use AAC

Kraat (85); Light (89); Muller & Soto (2002)

- Play a passive role
- Rarely initiate interaction
- Express a limited number of speech acts
- Use restricted language forms
- Limited opportunities to interact with others

## Project Goals

To move beyond offering *visual supports*

- schedules, choice boards, topic boards, communication boards & devices, to . . .

Scaffolding learning through *visual strategies*

- smart charts to cue teachers
- using before /during / after approach
- cueing with squeeze lights, etc.

## Visual Strategies Project

small grant-funded collaborative project

- Southwest Human Development
- Prentke-Romich Company
- DynaVox Technologies

- Support to 3 local school districts
  - preliminary visits to 3 target classes
  - full-day workshop
  - 3 follow-up workshops + Make It
  - in-class demo, mentoring, coaching
  - homework assignments via e-mail

## Schedules, Choice Boards, Topic Boards, Communication Boards

[www.aacintstitute.org](http://www.aacintstitute.org)



Parents' Corner

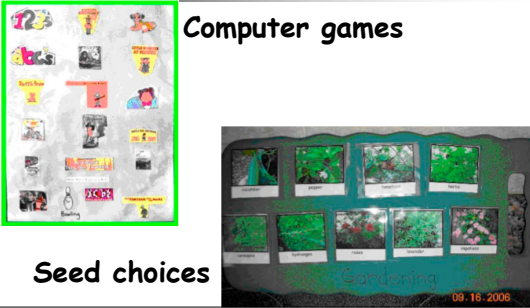
Please,



... Pam and Josh Harris


## Choice Boards

**Computer games**



Seed choices

## Communication Boards



## Visual Supports WITHIN Activities

Beyond tasks  
Beyond tools  
.....  
Focus on **STRATEGIES!!!**

## Predictability is POWERFUL!

*WHY?*

- Supports students who have a hard time with **change**.
- Helps students know what to **expect**.
- Sets the stage for "expectant time delay."

## Visual Supports for Predictability

- Schedules
- Books
- Objects

## Auditory Supports for Predictability

- Songs
- Chants

(EASY way to build auditory skills)

## Highly Scripted Activities

- Majority of the language is predetermined
  - High success
  - Great way to learn vocabulary
- Examples: books, songs

## Less Scripted Activities

- Snack time
- Food prep
- Arts & crafts

(somewhat predictable)

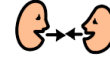
## Before, During, After . . .



plan



do



review

## BEFORE

Planning Goals  
Locating Vocabulary  
Building Background Knowledge  
Rehearsing

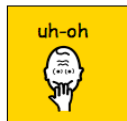
## Planning Goals

- **Form:** increasing Mean Length of Utterance
- **Function:** eliciting specific communicative functions such as:
  - negating
  - requesting recurrence
  - commenting on actions

recurrence comment on action



more



uh-oh



no

don't



let me!

Sample  
Single  
Messages  
for  
Cooking

protest / deny request turn

## Choosing & Locating Vocabulary

- selecting appropriate target vocabulary
- considering where to find vocabulary on devices
- preparing smart charts for adult facilitators, if necessary

## Remember . . . Repetition with Variation!

It would be great to use similar vocabulary EVERY time you cook . . . The 'fringe' words (oil, cake mix) can be added in many different ways, even light tech!

## Rehearsing

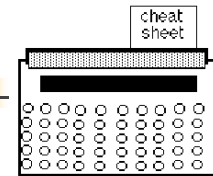
- Helping students quickly practice where to find needed vocabulary avoids over-prompting during activities
- Should be **VERY** brief
- Don't try to rehearse every possible word - just key words or categories

## Generate Vocabulary BEFORE Reading

Vocabulary Relates to Purposes:

**Purpose** = listen for feelings  
**Vocab** = long list of feelings

**Purpose** = listen for actions  
**Vocab** = long list of actions



Cheat sheet attached to device via report cover spine

## 'Cheat Sheets' ... aka 'Smart Charts!'



Point out patterns!

The class is doing a unit on family relationships, so the partner has prepared a visual list of where to find symbols for Unity™ (ex: Vantage)



## 'Smart Sticks'



The class is talking about a field trip, and discussing places to go, and describing things they might see. The partner holds up popsicle sticks with 'Places' and 'Describe' on them for cueing.

# DURING

- Teaching, not testing agenda
- Prompt Hierarchy
  - Modeling
- Increasing Opps & Motivation!

## Training Styles

(From: Pam Elder, Phoenix AAC Expo, 1996)

### Style A

- Excessive questioning
- Excessive commanding
- "Testing agenda"
- Emphasis on expressive use
- Fosters responding rather than initiating behavior
- High likelihood of communication failure
- Minimal or no comprehension support
- Minimal response time allowed
- Product rather than process oriented

### Style B

- Modeling (commenting and describing the ongoing activity)
- "Conversational agenda"
- Emphasis on receptive use
- Fosters initiating behavior
- Numerous opportunities for student success
- Maximizes comprehension support
- Sufficient response time allowed
- Process oriented

from:

**Pam Elder**

## Nurture Initiating

creative stupidity



Flashlight cues

sabotage



## Prompt Hierarchy

Prompt	Description	Example
<i>Expectant Delay</i>	Give a verbal cue then pause to give students time to process the information, consider a response, access the device, etc. Pause at least 5 seconds.	"Okay, Jarrad said he might feel BORED when he's working. Hmm, wonder what other feelings we could put on our chart" <pause and look expectant>
<i>Verbal Prompt</i>	Give a subtle verbal cue, that tells generally WHAT to do	"Jen. Here's your switch. . . . Jen's going to READ for us!"
<i>Light Cue - general</i>	Use a squeeze light to give students a hint of the location of the target vocabulary item.	Students have been asked to share feelings. After a pause, Kelly's facilitator flashes the light in the vicinity of the FEELINGS icon.
<i>Light Cue - Intermittent</i>	Use a squeeze light to briefly indicate the target item.	Flash and release on the FEELINGS icon.
<i>Light Cue - Constant</i>	Use a squeeze light to indicate the target item.	Flash and hold the light on the FEELINGS icon.
<i>Visual Model</i>	Show student an icon card that s/he can match to cue device use.	Hold up icon card for MAD. Show icons on device as needed.

## Model, Model, Model!

Lingo



Tab Top Flip Set - Clothing & Core



SuperTalker



Vanguard +

## Modeling Is Necessary

- Musselwhite & St. Louis, 1982
- Beukelman & Garrett, 1988
- Goossens', Crain, & Elder, 1992

## Modeling Works

- Romski & Sevcik, 1996
- Light, 1997
- Binger & Light, 2007

# SABOTAGE!!

## Sabotage

In sabotage, facilitators manage the environment so there is a **need** to communicate, by:

- getting the incorrect item (protest / deny)
- arranging for a missing item (request item / comment)
- omitted or incomplete step (comment / request action)

See June, 2004 Tip: [www.aacintervention.com](http://www.aacintervention.com)

## Sabotage / Creative Stupidity

Incorrect Item

'Get a bowl!'



'Put the mix in the bowl.'



Omitted Step

Ideas from Goossens', Crain, & Elder, 1992

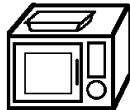
## More Sabotage / Creative Stupidity

Incomplete Step

'Open the box.'



'Put it IN the oven.'



Incorrect Step

From: Goossens', Crain, & Elder  
Engineering the Preschool

## Sabotage Tips:

### 'RULES':

- Only after modeling possible responses
- Only if student has a way to respond successfully

### ADVANCE PLANNING

Who / when / how to sabotage

# AFTER

- Oral Review
- Written Review

## Oral Review

- in-class
- at school (peers, secretary, OT)
- school-to-home

## Simple Step-Listing Devices



Hip Step Talker  
[www.enablingdevices.com](http://www.enablingdevices.com)



Sequencer  
[www.adaptivation.com](http://www.adaptivation.com)



Stepper  
[www.amdi.com](http://www.amdi.com)



Step-by-Step  
[www.ablenetinc.com](http://www.ablenetinc.com)

- multiple messages
- sequenced messages
- can use extra switch

## High Tech Tricks

**Question?** How to QUICKLY share messages about activities from school to home

## Written Review

- light tech / high tech
  - structured
  - generative
  - poetic!

## List Poems

### Features

- very simple
- great for 'writing to talk'

### Focus On:

- locations
- actions
- descriptions

## Vocabulary Use in Writing

(Clendon, Sturm & Cali, 2004)

Top 2-word sequences in writing samples

- I like
- Going to
- I am
- Went to
- To the
- I went
- In the
- It was
- My Mom
- And my

Print on letter paper in portrait mode.

Alphabet 36					
A	B	C	D		
E	F	G	H		
I	J	K	L	M	N
O	P	Q	R	S	T
U	V	W	X	Y	Z
I'll spell	guess	help!	wait	1st letter	space

Initial Letter Cueing Board

Great for modeling, 1st letter, etc.

[www.aacintervention.com](http://www.aacintervention.com)

## Alphabet Flip Board



Center for Literacy & Disability  
Hanser, 2009

## Senses Poems

### Features

- looks / tastes / sounds / feels / smells
- great for exploring language on device

### Tips:

- develop word bank first
- link to activities

## Summary

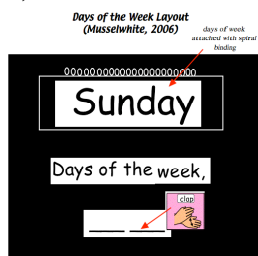
- Yes, all teachers developed new *visual supports* (songboards, alphabet flip boards)
- But more importantly, they developed new *visual strategies* to scaffold learning and independence for students who use AAC



## Predictability is Powerful

Prediction in activities, visual supports, and language provides scaffolding for students with ASD on a number of fronts. Many students with ASD have difficulty with change. Successful teachers, parents, and therapists have learned to support students through strategies such as:

- a) Presenting a predictable schedule of activities throughout the day
- b) Using visual strategies to let students know what is coming next
- c) Using auditory supports (especially songs and chants) to help predict change
- d) Providing predictability within activities
  - a. *Scripted Activities*, such as stories or songs (majority of language is



predetermined)

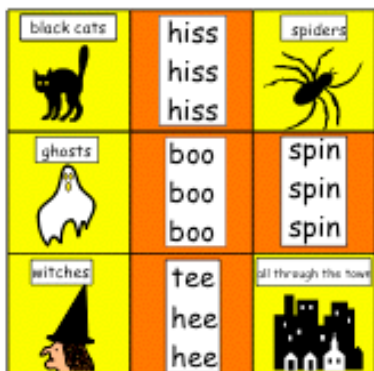
- b. *Unscripted Activities*, such as snack time, food prep, and arts and crafts (while some pre-planning can occur, much facilitation will be ‘on the fly’)
- e) Developing light tech communication displays and high tech communication devices in ways that make language predictable

## Repetition . . . with Variation

While predictability is important, it is crucial that we do not develop such strict routines that students with ASD are set up for failure. Repetition with variation supports students in developing pattern detection. That is, while routines are familiar, moderate variation ensure that students learn to handle change and offers scaffolding for new learning and for generalization. Following are opportunities to engage in repetition with variation:

### Circle Time: Highly Scripted Activities

- **Songs:** use a song with changes, such as:



### Wheels On the Bus

September = traditional (children / wipers)  
 October = Halloween (ghosts, witches, cats)  
 November = Thanksgiving (pilgrims / turkeys)  
 December = Christmas (Santas / Rudolphs / elves)  
 January = snow (snowmen / snowflakes)  
 February = Valentines (cupids / hearts)

See October, 2006 tip: [www.aacintervention.com](http://www.aacintervention.com)

- **Stories:** set up student roles, such as:



**Bookreading Roles:**

Page prompter = turn the page  
 Commenter = funny / cool / uh-oh  
 Questioner = what / who / why  
 Repeated Line Filler = ‘Goodnight’ / ‘all by myself’  
**Note:** try to move these from light to high tech communication devices

See August, 2004 Tip: [www.aacintervention.com](http://www.aacintervention.com)

**Line Up: Highly Scripted Activity**

Help students use a variety of strategies to line up, supporting language, literacy, and listening skills! Have students help select line-up options using devices. Samples:

- if you’re wearing red, line up now
- if your name has three beats, line up now
- sound substitution (Pizza, pizza, Pat, line up if your name is \_\_\_\_\_)

**Food Prep / Arts & Crafts Roles:**

Direction Giver = put in / get \_\_\_\_ / stir it / get more  
 Commenter = yum / yuck / uh-oh  
 Request for Recurrence = more  
 Protest / Deny = no / don’t  
**Note:** focus on modeling core language, not just the fringe vocabulary (get / need / put / on, not just Markers / oil / eggs, etc)

See January, 2004 Tip: [www.aacintervention.com](http://www.aacintervention.com)

**Food Prep / Arts & Crafts: Less Scripted Activities**

While less scripted than a story or a song, an activity such as food prep or arts and crafts is still highly predictable. Therefore, these activities are ideal for natural aided language.

**Sabotage**



**Sabotage**

In sabotage, facilitators manage the environment so there is a **need** to communicate, by:

- getting the incorrect item (protest / deny)
- arranging for a missing item (request item / comment)
- omitted or incomplete step (comment / request action)

See June, 2004 Tip: [www.aacintervention.com](http://www.aacintervention.com)



# ***Training Styles***

(From: Pam Elder, Phoenix AAC Expo, 1996)

## **Style A**

Excessive questioning

Excessive commanding

"Testing agenda"

Emphasis on expressive  
use

Fosters responding rather  
than initiating behavior

High likelihood of communi-  
cation failure

Minimal or no comprehen-  
sion support

Minimal response time  
allowed

Product rather than process  
oriented

## **Style B**

Modeling (commenting and  
describing the ongoing  
activity)

"Conversational agenda"

Emphasis on receptive  
use

Fosters initiating behavior

Numerous opportunities  
for student success

Maximizes comprehen-  
sion support

Sufficient response time  
allowed

Process oriented

# ***Training Styles: Definitions***

(Musselwhite, 2002)

**Modeling:** The practice of commenting on and describing an ongoing activity. Goossnes', Crain, & Elder (1992) refer to "aided language stimulation" techniques. Elder and Goossens' describe Aided Language Stimulatio as ". . . a facilitation technique in which the facilitator highlights symbols on the augmented speaker's overlay as the facilitator interacts and communicates during the conduct of that activity" (1994, p. 164).

**Conversational Agenda:** The goal of augmentative communication is to help individuals be able to converse with others, **not** to test them on where items are on their display! This means that the focus should not be on wh-questions, yes/no questions, and excessive commanding ("Tell me 'I want drink'", but rather on communicating by getting students to take turns and share "real" information and ideas. Wonderful examples of using a conversational style are in scripts that go with the Communication Displays for Engineered Environmens (Southeast Augmentative Comm. Asso).

**Emphasis on Receptive Language:** It is very important that student's receptive language skills are supported, rather than forcing them to use language expressively before they have seen it modeled in the context of real activities. For example, because Martin can only press a switch with effort, the teacher might give him only one thing to say on a Big Mack device. However, Martin needs to be exposed to symbols and the language they represent, not just to learn to press the switch to say "more please!" The teacher can use a place mat with 12 general symbols (EAT, DRINK, UH-OH), adding symbols for today's snack (CRACKER, JUICE, WATER). Even though Martin can still press only one switch to say "more please" (expressive language), he is being stimulated with lots of words and symbols as he is enjoying his snack (receptive language).

**Nurture Initiating Behavior:** Many individuals who use AAC devices only respond to other people, and never start a conversation. This causes passivity, and a condition known as "learned helplessness." Partners need to encourage initiating behavior by using the least prompting possible (see the "Prompting Hierarchy" Chart & Worksheet).

**Numerous Opportunities for Student Success:** Use the Conversational Chart to see how often your student: 1) uses augmentative communication to interact with others; 2) even has an appropriate augmentative communication strategy available in order to communicate. It is important to look at all activities and decide where more activities can be available. Having "supplemental symbols" quickly available helps to provide for more opportunities. For example, "extra" symbols should be available for: art (ex: colors, symbols for art materials such as glue, paper, ribbon, depending on the activity); cooking (e.g., extra verbs for the recipe, such as BLEND, STIR, CHOP, ingredients for each recipe), and snack (e.g., specific snack items). Supplementals make an activity richer and more fun.

**Maximize Comprehension Support:** Many strategies can help students understand the activity. Samples are: using a theme where activities are related, using concrete props, and modeling with a doll.

**Allow Sufficient Response Time:** The literature is clear that communication partners do not give AAC users time to respond! It may take longer for AAC users to give a response, especially beginners. Planned pause time should be used (ex: wait 5 seconds before the next prompt). You may have to actually count at first (1 Mississippi, 2 Mississippi . . . ) until this becomes "natural."

**Be Process Oriented:** Activities such as art, science, and music are much better learning times if partners are less concerned about the product (e.g., what the picture looks like) than the process (what the student did to make the picture). For example, a song might be sung slowly, with only one song finished at Circle Time, but students had a chance to: choose the song, choose the verses, pick props, add the refrain, etc.

## ***Strategies to Increase Success for AAC Users with ASD (Musselwhite & Wagner, 2007)***

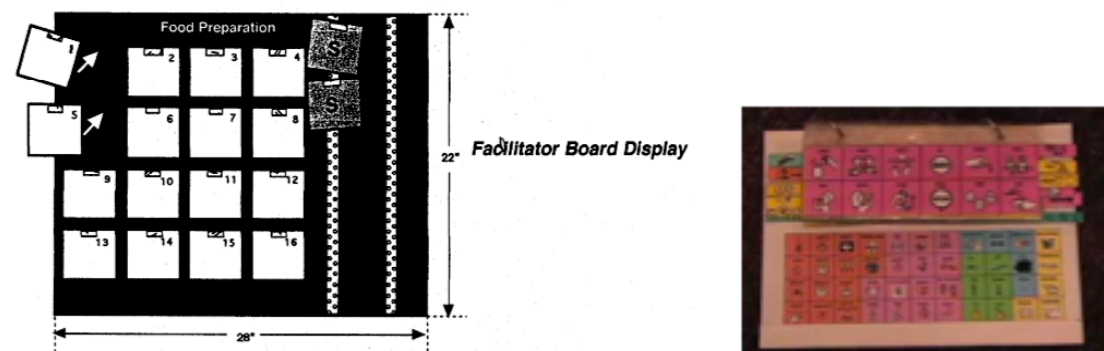
Research compiled by Arlene Kraat in 1985 indicated a number of problem areas in the growing area of AAC. These have been verified by other researchers and authors:

- Communication displays / devices rarely used
- AAC users typically respondents, not initiators (Culp, 1982; Harris, 1982; Light, et al, 1985)
- Limited range of functions available to AAC users
- Interaction patterns that focus on closed-answer questions (What do you want?) and “testing” (What’s this?)
- Expectations for AAC users are minimal
- Conversational partners control interactions, with turntaking highly unequal (Farrier et al, 1985; Light et al., 1985)
- Peer interaction is minimal

Students who use augmentative and alternative communication (AAC), especially students with Autism Spectrum Disorders (ASD) face all of the challenges as well as others. They typically have significant communication challenges, in the areas of both expressive and receptive communication. Too often, the primary focus is on the very visible goal of expressive communication, while students are still struggling with receptive communication, resulting in use of rote, prompt-dependent, and decontextualized language skills.

Carol Goossens’ describes ‘aided language stimulation’ as a training strategy in which communication facilitators use children’s systems to communicate with the children. . . ‘When conducting Aided Language Stimulation, the facilitator points out key symbols on the child’s communication display in conjunction with all ongoing verbal language stimulation being directed toward that child.’ (1992, p. 11). Goossens’ and colleagues also refer to ‘augmented input’ – focusing on the idea that aided language stimulation supports communication INPUT (receptive language) as well as OUTPUT (expressive language).

### **Sample Light Tech Displays for Natural Aided Language**



*Whole Class Display: Goossens’ 2002*

*Tab-Top Flip Display (Casey & Kornfield)*

Joanne Cafiero uses the term ‘Natural Aided Language (NAL)’, with this definition: ‘National Aided Language (NAL) is a measurable total immersion visual language system in which the speaking communication partner pairs speech with pointing to symbols. NAL simultaneously teaches the non-speaking communication partner to both understand and generate interactive language.’ (Cafiero, 2005, p. 37).

## ***Strategies to Support Natural Aided Language***

### **Start Early . . . and We Mean EARLY!!!**

Cheslock, Ronski, & Sevcik(2007) summarize the evidence on early intervention in AAC, noting that ‘Beginning intervention as early as possible will not only improve the life and functioning of a child but will also reduce the stress of the family and in turn improve the family environment (Guralnick, 2000).’ Recent research at the University of Washington highlights the importance of very early intervention in supporting language learning (Kuhl et al, 2005, Schwartz, 2007). While many of us are working with students who are NOT toddlers, we can all participate in advocating for early, intensive intervention, that includes AAC and Aided Language Stimulation. As Cafiero says, ‘For people of all ages on the autism spectrum, whether they have had some or no prior experience with AAC, now is always the right time to start.’ (2005, p. 13).

### **Prompt Lightly**

Facilitators should prompt students ONLY when necessary, and should prompt quietly. Only the AAC user being prompted should hear or see the prompt. Use a ‘least-to-most’ hierarchy of prompting:

<b>Prompt</b>	<b>Description</b>	<b>Example</b>
<i>Expectant Delay</i>	Give a verbal cue then pause to give students time to process the information, consider a response, access the device, etc. Pause <u>at least 5 seconds</u> .	“Okay, <u>Jarrad</u> said he might feel BORED when he’s working. Hmmm, wonder what other feelings we could put on our chart” <pause and look expectant>
<i>Light Cue – general</i>	Use a squeeze light to give students a hint of the location of the target vocabulary item.	Students have been asked to share feelings. After a pause, Kelly’s facilitator flashes the light in the vicinity of the FEELINGS icon.
<i>Light Cue - Intermittent</i>	Use a squeeze light to briefly indicate the target item.	Flash and release on the FEELINGS icon.
<i>Light Cue – Constant</i>	Use a squeeze light to indicate the target item.	Flash and hold the light on the FEELINGS icon.
<i>Visual Model</i>	Show student an icon card that s/he can match to cue device use.	Hold up icon card for MAD. Show icons on device as needed.

## Writing & Talking - Goals & Activities

Janice Light (1989, 1998) has described sets of skills that AAC users need to build communicative competence. A brief summary of each is provided, with suggested writing / talking goals:

**Linguistic Skills** include receptive and expressive skills in the native language spoken by the family and broader social community. This includes skills in the 'linguistic' code of the AAC system. Examples include exploring vocabulary, icon sequences, navigating dictionaries, using past tense or comparative 'er'.

**Operational Skills** refer to the technical skills required to use the AAC system(s) accurately, efficiently, and appropriately. Examples include: using a head pointer to indicate items on a communication board and using row-column scanning with a single switch.

**Social Skills** refer to knowledge, judgment, and skills in the social rules of interaction. Included are skills to initiate, maintain, develop, and terminate interactions; skills to develop positive relationships and interactions with others; and skills to express a full range of communicative functions. Using dialogue in writing plays and writing interviews would support this goal.

**Strategic Skills** refer to compensatory strategies that may be utilized by individuals who use AAC to overcome functional limitations that restrict their effectiveness as communicators. An example is providing new partners with information about how to communicate with them.

## Light Tech Vocabulary Sets to Support Writing

### ***Print 'n Communicate***



- Set of 21 communication boards
  - category-based vocabulary
- [www.mayerjohnson.com](http://www.mayerjohnson.com)

### ***Flip 'n Talk (Large)***

Nancy Inman



- Up to 30 sets of 6 symbols
  - Can be added to core board, (shown) or affixed to other VOCAs
- [www.mayerjohnson.com](http://www.mayerjohnson.com)

### ***8-Location Eye Gaze Set***

Caroline Musselwhite & Gretchen Hanser



- Set of categories with tabs
  - Used for eye-gaze or partner-assisted auditory scanning; Write to Talk CD
- [carmussel@cox.net](mailto:carmussel@cox.net)

### ***Tab-Top Flip System***

Karen Casey and Sherry Kornfeld



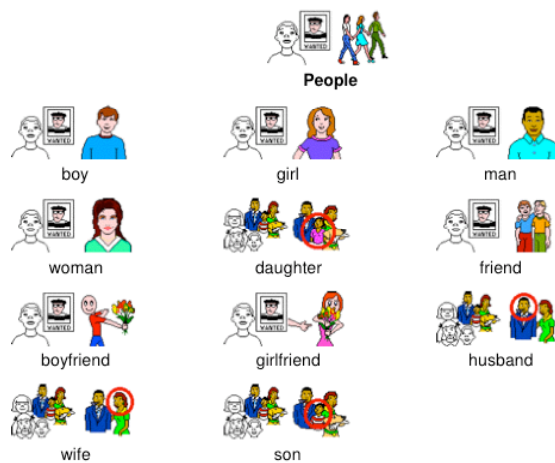
- Core vocabulary at bottom
  - Pages of color-coded category sets
- [Karen.Casey@ncmail.net](mailto:Karen.Casey@ncmail.net)

## Model, Model, Model!

While communication partners are urged to model AAC use (Beukelman & Garrett, 1988; Goossens', Crain, & Elder, 1992), and while research shows that modeling AAC use is helpful (Ronski & Sevcik, 1996), Light (1997) cites several studies indicating that partners use AAC modeling in less than 10% of their messages, even when given specific instruction to do so. Communication partners should model vocabulary not yet in student's expressive lexicons and sentence structures that are "... just beyond the current productions of the child, although within the child's receptive capabilities" (Light, 1997, p. 168).

## Use 'Smart Charts'

One reason often given for failure to model is that communication partners don't know the location of words on the student's communication device. The 'smart charts' shown below provide visual support to facilitators regarding where to find vocabulary.



### People Smart Chart

The class is doing a unit on family relationships, so the partner has prepared a visual list of where to find symbols for Unity™ (ex: Vantage)

Note: Samples from software for PRC devices, [www.prentrom.com](http://www.prentrom.com)



### Categories Smart Chart

The class is talking about a field trip, and discussing places to go, and describing things they might see. The partner has sticks with 'places' and 'descriptions' on them for cueing.

Note: Samples from software for the V, [www.dynavoxtech.com](http://www.dynavoxtech.com)



# References

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