Extreme Make-Over: The AAC Classroom Edition
By Gail M. Van Tatenhove

AAC Users & Educational Settings
Self-Contained Special Education Classrooms
Regular Education Classrooms

AAC & Special Class Students

- A Survey of Special Education Teachers
  - How is AAC implemented with students in your special education classes?
  - What are your concerns and challenges in how AAC is implemented in your class?

Teacher Quote #1
- “The students in my class all have severe disabilities. The curriculum in my classroom is centered around functional activities, along with special events and, of course, speech, OT and PT. My students need a lot of repetition and they do best when I follow a daily routine.”

Common Routines and Activities

- Circle Time
- Snack Time
- Lunch Time
- Music
- Art
- Current Events
- Cooking
- Reading
- Shopping
- Money/Numbers
- Adapted PE
- Rest Time
- Community Inclusion
- Housekeeping
- Free Time
- Social Skills
- Computer Time
- Fine Motor

Teacher Quote #2
- “In my classroom, we identified the vocabulary that my students need to participate in our activities. We really try to focus on concrete words to keep things easy for our students. We now have between 500 & 1000 words. We pick out the words we need for each activity and put them on different displays for the students to use.”

Page 1
Teacher Quote #3

• “I make displays for the things that we do every week, like cooking, so all I have to do is pull out the display and the students pass it around to participate in the activity.”

Teacher Quote #4

• “We use a lot of different symbols and technology in our classroom. First, we engineered our room and labeled everything with symbols. Then, we set up “stations” in our room and students just have to go over to that station to tell us what they want or to participate in the activity.”
Teacher Quote #5

• “I have 3 students in my class with expensive devices. For each of our activities, I tried to make pages in the devices. It seems like I was constantly making new pages. For example, for cooking activities, we have a page for making pizza, and another page for pudding, and another for brownies. Some students have as many as 200 pages in their devices and we have to find the page for them. It is starting to get very confusing and hard to keep up with all the programming.”

Teacher Quote #6

• “My students all participate in my class with Big Macs and Step-by-Steps. I have a Big Mac they use to ask for “more.” I pass it around during snack time and they tell me if they want more. Then I use the Step-by-Step for them to give me answers and tell me what to do. We did a lesson on Thanksgiving today and each one took a turn answering a question about Thanksgiving.”

Teacher Quote #7

• “During our classroom activities, we pick out the symbols and boards for the students and prompt them to use them during the activity. When we are done, we put them away. We are getting concerned that the students are waiting for us to do everything for them and aren’t really participating on their own.”

Teacher Quote #8

• “I’m really stuck on trying to find a way for the students to talk after the activity is over. We go to the page and help them answer questions during the activity, like telling me the ingredients we need for cooking, but they don’t seem to understand that their (devices) are not just something to use during the activity.”

Teaching Practices in ESE

– Functional activities emphasized
– Repetition & routine are used
– Language learning and use is important
  • “Concrete” language
  • Teachers select symbols, displays, and pages
– Participation is a common goal
– Technology is in these classes (hi and low)

Concerns & Outcomes

– Limited talking outside of the activity
– Learned passivity
– Prompt dependent
– A large number of constantly changing words to manage, learn, locate
– Systems are often classroom based and not personal
– Programming demands
– Technology is often emphasized over language

Local AAC Adult Outcomes

• A review of 4 adult workshops was conducted in Central Florida
• 17 new clients (aged 22) were admitted who had recently graduated from 4 large school districts
• 9 of these clients were functionally non-speaking and had received intensive AAC intervention in special education classes
• 8/9 of these clients had NO personal AAC system upon graduation, either a manual communication board or device
Extreme Make-Over: The AAC Edition
Gail M. Van Tatenhove, PA, MS, CCC-SLP
www.vantatenhove.com     gvantatenhove@cfl.rr.com

AAC with Students in Regular Education Classes

• Assets
  – Most students included in mainstream have personal AAC systems
  – Most students have personal classroom assistants, as needed
    ©Some which are “velcroed” to the student

• Challenges - ACOLUG Entries
  – Pace of the curriculum
  – Impact of technology
  – Teacher training and practice

“There are a number of issues involved in terms of how speech pathology services are provided or how speech pathology is practiced. From my experience, appropriate services for AAC needs does not fit easily within the public school standards of practice. I could manage when I was serving students with mild to moderate degrees of speech and/or language difficulties, but all of this broke down for me when I started trying to meet the needs of students who used AAC because these students needed a different kind of service and therapy.

“I've been teaching for 25 years and it is getting harder every year, especially with all the state curriculum guidelines we have to follow. My job is to document what the students in my class have and have not learned. I have a student in my class using a (device) and I work with the aide using yes/no questions and multiple choice worksheets to test him. But, I think I could be doing more with his device because I'm not sure he's really learning anything or whether the aide is really doing the work. I’ve asked the parent or SLP to program in the words I need for our lessons, but that doesn't seem to be working out. How can I help my student participate better in my class?”

“I am concerned about doing therapy with sophisticated devices … As an SLP, I have spent hours upon hours programming devices at home. Last year I kept track of the hours I worked at home and it totaled well over 300 hours, which was more than 12 work weeks. It seems like every week I have to add more vocabulary for new activities in the classroom. I try to do therapy with the new vocabulary, but by the time I get the vocabulary added, the activity is already passed. I just can't keep up with all the programming demands. Help. I am frustrated. How can I do therapy when all I am doing is programming new vocabulary?”

“I am working with a student who seems to have good language understanding, but continues to talk with only 1 or 2 words in class unless you make her do better. Nobody else seems to think making sentences is important. We are working on basic syntax and morphology, but it is very slow going. She can do it in therapy, but doesn't generalize with her family and in the classroom.”

“I am currently writing a curriculum demonstrating how to teach the state language standards to children who use AAC. My focus is on giving the staff target sentences which are made up of core vocabulary which the students can use to interact with, discuss, and write about the topics included in their social studies and science texts. ... I also include a target sentence with everything I send to the school with the boys. For instance, Caleb needs to bring in a photo of his family, his pets, and his house next week. ... I know that unless the SLP is in his classroom, staff will accept a one word description of each photo, even though Caleb can do more. If I print up an official looking target sentence, with the locations of the words on his device included, staff expectations and ability to help are much higher.”
Extreme Make-Over: The AAC Edition
Gail M. Van Tatenhove, PA, MS, CCC-SLP
www.vantatenhove.com  gvantatenhove@cfl.rr.com

What Do These Quotes Tell Us About....

Impact of AAC Technology  
Teacher Training & Practice

AAC Technology's Impact
- Differences emphasized over similarities in student needs
- Teacher Time/Pace constraints
  - Priorities on “quick & easy”
- SLP Support
  - Therapy time spent programming vs. supporting language
- Poor language and academic performance
  - Limited generalization and de-contextualization of language
  - Limited participation in the learning process
- Technology intimidation that results in reduced interaction between student and teacher
  - Lack of coaching & modeling by teachers

Teacher Training
- Teachers are taught how to....
  - Teach in consideration of state curriculum and testing standards
  - Implement curriculum materials using various teaching strategies
  - Focus on critical concepts & vocabulary as identified in the curriculum materials

Curriculum Materials

Teacher Training (cont.)
- Taught to get fluid, up-to-date information about what their students are learning (review) or have learned (test)
  - One word, response-oriented questions
    - Academic = Where is the Iditarod held?
  - Critical thinking questions
    - Academic = Why would a musher want to use an experienced lead dog?

Teachers and Core Vocabulary
- Teachers assume their students have “learned to talk” so they can “talk to learn” — therefore, they take using core vocabulary for granted.
In the early grades, teachers are working on core vocabulary during spelling, reading, & language. So why is there still such an emphasis on extended vocabulary?

**Time for an Extreme Make-Over**

**PART 1: MATERIAL FACTORS**

**OF THE "STUFF" OF AAC**

- PLAN FOR & SELECT CORE LANGUAGE
- DESIGN LANGUAGE FRIENDLY AAC SYSTEMS
- BUILD NO TECH BRIDGES FROM LANGUAGE TO DEVICES

**PART 2: HUMAN FACTORS**

**OF OUR IMPLEMENTATION OF AAC**

- DO MORE LANGUAGE THERAPY
- BE BETTER COMMUNICATION PARTNERS
- PRACTICE & SUPPORT DESCRIPTIVE TEACHING

**Material Make-Over Challenge #1**

**PLAN** to give the student access to 50 - 400 permanently available, APPROPRIATE, HIGH FREQUENCY, RE-USABLE (core) words and word variations.
What isn’t core vocabulary?

- Good morning Gail.
- I feel happy.
- I want to go like train.
- Stop.
- I want go now.
- I am going airplanes fast.
- I don’t know.
- You sing and more louder.

Core Vocabulary, Morphology, & Syntax

- Good morning Gail
- I feel happy
- I want to go like train
- Stop
- I want go now
- I am going airplanes fast
- I don’t know
- You sing and more louder

Vocabulary Breakdown

- Good
- I happy
- I
- I now
- I fast
- I
- You and more louder

Names/Nouns
- morning
- Gail
- train
- airplanes

Verbs
- feel
- want (2)
- go/to go/ going
- like
- stop
- am
- don’t
- know
- sing

Vocabulary Breakdown

- Good
- happy
- now
- fast
- and more louder

Names/Nouns
- morning
- Gail
- train
- airplanes

Verbs
- feel
- want (2)
- go/to go/ going
- like
- stop
- am
- don’t
- know
- sing
Vocabulary Breakdown

- Names/Nouns
  - morning
  - ball
  - train
  - airplanes

- Pronouns
  - I (5)
  - you

- Verbs
  - feel
  - want (2)
  - go/going
  - like
  - stop
  - am
  - don’t
  - know
  - sing

- Adjectives
  - good
  - happy
  - fast
  - more
  - louder

- Adverbs
  - now

Vocabulary & Language Breakdown

Largest Word Class = Verbs
- morning
- ball
- train
- airplanes
- going
- like
- stop
- am
- don’t
- know
- sing
- good
- happy
- fast
- more
- louder

Second Largest Word Class = Adjectives
- I (5)
- you

Most repeated word = I

Planning for Core Vocabulary

This, that, those
want, go, will, take
big, red, fat, hard

"hard core" core
"personal" core
"soft core" core
extended
"xx" extended

"hard core" core
"personal" core
"soft core" core
extended
"double x" extended
Core vocabulary is a statistical concept related to overall word frequency. The most frequently occurring words = 80% of the actual words spoken.

78 – 80% of the words we use daily come from a set of fewer than 350 - 400 words.

The 50 most frequently occurring words account for 40-50% of total words said, while the 100 most frequently occurring = 80% of what is said.

Core vocabulary is a statistical concept related to overall word frequency. The most frequently occurring words = 80% of the actual words spoken.

78 – 80% of the words we use daily come from a set of fewer than 350 - 400 words.

Hard, personal, and soft core

Select Core Vocabulary

Best Practices

Frequency of Use Word Lists

Normal Language Development

+/– of Frequency of Use Word Lists

• Generic and understandable based on the context of the situation (substantive words)
  – “Let me do it” vs. “Let me stir the brownie mix”
  – “Get the stuff” vs. “Get the brownie mix, eggs, oil”
  – “Use the little one” vs. “Use the “teaspoon measure”

• “Little” words that hold the substantive words together
  – “some of that”
  – “do for me”
  – “go with you”
Which is Higher in Frequency?

- List 1
  - of
  - with
  - by
  - for
  - than

- List 2
  - top
  - bottom
  - over
  - under
  - around

Which is more likely to be a better investment in “real estate” on the AAC system?

Normal Language Development Words
- Words that are used to express a full range of pragmatic functions (reasons to talk)

Communication Functions & Words
- Greet/Part
  - Hello, goodbye
- Request object
  - That, please, cup
- Request action
  - Want, get, do, up
- Request assistance
  - Help, do
- Request recurrence
  - More, again, another
- Request information
  - What, why, where
- Existence
  - This, that, look, see, there, here
- Self/Possession / Person
  - Mine, you, it, he, she, mom
- Nonexistence
  - Uh oh, away, all gone, what
- Disappearance
  - Away, all gone
- Rejection
  - No, stop, don’t, uh uh
- Cessation
  - Stop, all done, finished
- Comment/Describe
  - Like, bad, good, naughty, big, little, yuk, yum, hurt
- Direct action/events
  - Go, help, stop, come, eat, read
- Name
  - Car, shoe, cup
- Associative
  - Big, hot, pretty, up, off

Normal Language Development
- Early emerging little words
  - Conjunctions (and)
  - Determiners (this, that, some, any) and indefinites (something, nothing, anything)
- Word endings (morphological markers)
  - “+ing”
  - +s (plural)
  - Contractions (it’s, don’t)
  - Possessive (mom’s)

Personal Core
- Key people
  - Mom, dad, Brynn, Bryce, Cameron, Grandma, Grandpa
  - Marina
  - Miss Gail, Miss Jennifer, Miss Laura
- Frequented and favorite places
  - Pool, gator pond, Sunday school
- Favorite and motivating things
  - Train, Cars DVD, chocolate milk shake
Visible Vocabulary

Pixon® 50 Location Board

The Big Question

- Hasn’t someone already made a list of permanently available, high frequency re-useable words to be considered when developing an AAC system?

The Answer

- Yes. The Pixon Project has done just that, plus more.

Pixon Project Kit

- An AAC-Based Language Development program that includes...
  - A curriculum with instructional modules for teaching 150 core vocabulary words
  - Ten pre-made manual boards
  - Educational & environmental materials
  - Pictures
- Distributed by Prentke Romich Company (PXK-1, $149.95)

The Top 5 Reasons to Not Do Core

Normal to Talk with Nouns

Toddlers & Preschoolers

Low Cognition

Giving Answers in Class

Hard to Teach

Normal to Talk with Nouns

“Don’t all children start out primarily talking with nouns?”

1. The first 20 words that a child says are primarily nouns.
2. Primarily using nouns from 13 – 18 months. Short period of time!
3. By 24 months, the child has 150 – 300 words and nouns no longer dominate.
4. By 26 months, the child is using 80% core and will for the rest of their lives.
Extreme Make-Over: The AAC Edition
Gail M. Van Tatenhove, PA, MS, CCC-SLP
www.vantatenhove.com  gvantatenhove@cfl.rr.com

AAC “Lessons”

• Okay to start AAC intervention with a child under 18 months with a small set of nouns,
  but don’t do nouns exclusively and don’t stay there indefinitely or the child will never develop language.
• If a person functions cognitively below 18 months, the proportion of extended to core may shift in favor of extended,
  but don’t ignore core.

Kevin 1:4

• 28 “hard” and “personal” core
  – people = Kevin, mom, dad, brother
  – negative = not
  – verbs = want, look, help, stop, like, wait, go, come, feel, eat, drink, listen, play
  – descriptive = finished, again, different, all gone, more, away, good, bad, tired
  – placeholder = that
• 98 infrequently used non-core
  – places and things

The Top 5 Reasons to Not Do Core

- Normal to Talk with Nouns
- Toddlers & Preschoolers
- Low Cognition
- Giving Answers in Class
- Hard to Teach

Toddlers and Preschoolers

• What do normal kids say at this age?
  – (SLP asked “Who’s that?” – it is ignored by Brynn)
  – It falling
  – Woop
  – That help falling
  – That can’t stand up
  – See, that can’t stand up
  – Woop – uh
  – Watch
  – See stand up

The Vocabulary of Toddlers

Banajee, DiCarlo & Stricklin,
(AAC 2003)

- Participants
  - 50 speaking toddlers between the ages of 2 & 3 years
  - Thirty-four girls and sixteen boys
  - Said a variety of 2 to 3 word utterances
  - Spontaneously initiated interaction, maintained interaction by taking turns, and terminated interaction appropriately

Language Analysis

- 10 words were used across all activities and environments
- Syntactic functions included pronouns (I, you), verbs (want) and demonstratives (this, it)
- Pragmatic and semantic functions included requesting action (want), negation (no), affirmation (yes), and establishing joint attention (that, it)
- A lack of nouns was noted
Toddler Vocabulary Arranged by Frequency

<table>
<thead>
<tr>
<th>Words</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>no</td>
<td>8.5%</td>
</tr>
<tr>
<td>family</td>
<td>7.6%</td>
</tr>
<tr>
<td>me</td>
<td>5.8%</td>
</tr>
<tr>
<td>the</td>
<td>5.2%</td>
</tr>
<tr>
<td>want</td>
<td>5.0%</td>
</tr>
<tr>
<td>it</td>
<td>4.9%</td>
</tr>
<tr>
<td>that</td>
<td>4.9%</td>
</tr>
<tr>
<td>he</td>
<td>4.6%</td>
</tr>
<tr>
<td>go</td>
<td>4.4%</td>
</tr>
<tr>
<td>take</td>
<td>3.0%</td>
</tr>
<tr>
<td>you</td>
<td>2.9%</td>
</tr>
<tr>
<td>what</td>
<td>2.7%</td>
</tr>
<tr>
<td>on</td>
<td>2.4%</td>
</tr>
<tr>
<td>some</td>
<td>2.3%</td>
</tr>
<tr>
<td>help</td>
<td>2.1%</td>
</tr>
<tr>
<td>all</td>
<td>1.0%</td>
</tr>
<tr>
<td>done/finished</td>
<td>0.3%</td>
</tr>
</tbody>
</table>

26 core words shown at left comprise 95.3 percent of the total words used by toddlers in this study.

Vocabulary Usage of Pre-School Children
The Statistical Dominance of Core Vocabulary

In the present study of preschool children, the 50 most frequently occurring words represent approximately 60% of the total sample, while the 100 most frequently occurring words accounted for 73% of the total sample. (The Jones Sampling, Lincoln, Nebraska, 1987)

(The top 250 words accounted for 85% of the total words.)

333 Most Frequently Occurring Preschool Words: The Marvin Sampling

AAC “Lessons”

- Preschoolers need to be given core vocabulary words from ALL word groups.
- Keep your balance 4:1.
- The words provided to preschoolers need to be used across ALL activities.
- Provide simple verbal models with ALgS models of 1 - 3 word utterances.
- Organize words in ways that are easy for them to use.

The Top 5 Reasons to Not Do Core

- Normal to Talk with Nouns
- Toddlers & Preschoolers
- Low Cognition
- Giving Answers in Class
- Hard to Teach

Do cognitively impaired individuals use core?

- How ya doing?
- Good?
- Did you see those pictures on my tray?
- Those are... those are pictures.
- You like them?
- Yeah.
- How ya doing?
- I so lucky.
- I luck.
- Fat luck.

28/30 = 96% of conversational speech
Extreme Make-Over: The AAC Edition  
Gail M. Van Tatenhove, PA, MS, CCC-SLP  
www.vantatenhove.com  gvantatenhove@cfl.rr.com

**MR/DD Adults that Talk**

Clay – Down Syndrome  Joe – CP/Blind

**Vocabulary Usage of People with Moderate to Severe Cognitive Impairments (A, T, W)**

```
A: Take Was
About That Way
After That We
Again The We
All There What
And Their When
Another They Where
Apple Thing With
At This With
```

**Core Vocabulary Usage of Youth with Moderate or Severe Learning Impairment**

- AAC devices for people with severe cognitive disabilities and little or no functional speech primarily contain nouns which seem easiest to acquire and evaluate. The effect of a more diverse vocabulary was assessed.
- The use of speech-output devices by 12 youths with moderate or severe mental retardation and severe spoken language disability showed core vocabulary was used as soon as it was introduced and expanded the focus of conversation both at home and at school.


**AAC Lessons**

- Individuals with cognitive & multiple disabilities (or complex communication needs) need to be given core vocabulary words from ALL word groups.
- The words provided to individuals with CCNs need to be used across ALL activities and stay with them.
- Create AAC systems with enough words.
- Organize the words in ways that are easy to use.

**The Top 5 Reasons to Not Do Core**

- Normal to Talk with Nouns
- Toddlers & Preschoolers
- Low Cognition
- Giving Answers in Class
- Hard to Teach

**Make-Over “Jobs”**

- Advocate for an language-based AAC curriculum in your school district
  - Check out the Pixon Project Kit
  - Create your own
    - Virginia (Spratleyville)
    - Texas (Garland, Red Oak, Colleyville)
    - New Jersey (Horizon)
    - Singapore (Rainbow Center)
- Give each student you support a set of core vocabulary (8, 50 - 400 words) with morphology (as appropriate & ready)
- Design a custom system to maximize “salability” of the core vocabulary
Material Make-Over Challenge #2

Design/Select a language-friendly AAC system or device that gives the person EASY ACCESS to his/her words so he/she can interact independently, easily, quickly and across multiple settings.

Language-Friendly Design Should...

- Promote the easiest possible ACCESS to core vocabulary with my brain & body core words should be the easiest to access
  - short sequences or navigations
  - simple patterns

Language-Friendly Design Should...

- Promote motor automaticity so I can talk without thinking
  - stable core vocabulary
  - short, consistent sequences/patterns

Design Factors

- Vision - Target Size
- Personal “Style” & Fashion
- Mobility -Portability
- Language & Cognition
- Access – Space, Target Size

AAC System Designs on Manual Communication Boards

- Single Sheet design
  - Everything you can say is on 1 “page”
### AAC System Designs on Manual Communication Boards

- **Single Sheet design**
  - Everything you can say is on 1 "page"

- **Multiple Sequential design**
  - You have to turn the page to get more words and when you do you lose access to all the other words you just had

### People

- **Multiple Sequential Design**
  - "Madison go out"
Verbs

Prepositions

AAC System Designs on Manual Communication Boards

• Single Sheet design
  – Everything you can say is on 1 “page”
• Multiple Sequential design
  – You have to turn the page to get more words and when you do you lose access to all the other words you just had

• Multiple Simultaneous design
  – You turn a “section” of your MCB to get some new words, but you don’t lose all your other words

Old Fashioned Multiple Simultaneous

Multiple Simultaneous

22 columns x 10 rows x 2 layers = 420 Words
in a 10 inch x 24 inch carry-able cloth display

Pixon Board

go to
www.vantatenhove.com for
a PPT of directions with
photos to make cloth carrying case
or BUY a pre-made case
HISTORICAL USE OF THESE KINDS OF DESIGNS

University of Iowa Hospital School Report 1974 (Project Years = 1964-1973)

Iowa Findings
- Single Sheet design for core
  - Easiest to use physically, cognitively, and linguistically
  - Produced the “best” language structure and content
  - Conversation flowed the best
  - Used spelling and other strategies when need more words
- Not a great design for extended vocabulary

Iowa Findings
- Multiple simultaneous for core
  - Awkward to manage
  - More challenging to create language
  - Best used when less frequently used core was in the “bottom” level
- A good approach for extended vocabulary

Single Sheet Designs
- Use this design as the “First Choice” for core words
- Not always possible due to the person’s ...
  - Vision
  - Access
  - Mobility
  - Cognitive Skills
  - Amount of Vocabulary Needed
- Use as many strategies as possible to stay on a single sheet design (e.g., encoding, PAS)

FACTORS = Vision, Portability, Access, Language – Cognition, Personal Style

J's Custom Pixon Board
Multiple Simultaneous Design

- Use as the “Second Choice” for core words when a single sheet design for the majority of your core words is not possible
  - Put less frequently used core words on the “lower levels”
- When that’s not possible, consider the “Third Option”

Multiple Sequential Designs

- Often the compromise of “Last Choice” for providing core vocabulary
- Strategies to maximize language and minimize challenges of this design for organizing core
  - Make the best single sheet main core word page as possible
  - Repeat critical core words across pages
  - Reduce navigation as much as possible

Board Designs & Devices

- All AAC devices organize vocabulary with some variation of these 3 types of designs used with low tech
- Page-based devices
  - Core vocabulary is across multiple pages
- Minspeak-based devices
  - Core vocabulary is on a single page and (1 hit and sequenced versions)
  - Additional words are in activity-rows and on pages

For implementing the philosophy of core vocabulary with the power of voice output...

- Robust Devices
  - Aim for initially providing at least 50 words “at-a-glance” on a single sheet (with single hits or sequenced hits)
    - Single-sheet based SGD with 45 or more keys and multiple meaning pictures
    - Page-based systems
      - core words repeated on pages (30 to 50/page)
      - short navigations for the top 50 – 300 words
- Limited Devices
  - Create a manual board with 50+ core and supplement with communication control and social sentences (e.g., I have something to say, Can we talk now?) on the SGD

Make-Over “Jobs”

- Get MCBs for ALL YOUR STUDENTS
  - Design before getting a device or to support a device
  - Consider pre-made boards from Pixon Project Kit
- Advocate for language over technology
  - Be ready to explain why a robust MCB might be a better language option than a SGD (at this point in time)
- Select technology based on how it manages language

Kit Content

- Curriculum that is core vocabulary focused
  - +/- 200 words taught
- 10 pre-made Communication Boards
Material Make-Over Challenge #3

BUILD low-tech supports as BRIDGES to bridge the chasm between language & technology, especially when the person has severe physical, behavioral or sensory disabilities.

Why Bridge Access Problems?
- Time issues
  - Communicating word-by-word takes time
  - Access errors slows down the process and often creates confusion and frustration

Why Bridge Access Problems?
- Priority on LANGUAGE learning and output, not access
  - Use MCB with Partner Assisted Scanning

Training for R/C Scanning

Why Bridge Sensory/Behavior Concerns?
- Some students visually or behaviorally distracted by technology features
  - Flashing screens
  - "Play" with the device and speech output
- Auditory processing
- Helped by the human interaction required with MCB systems (e.g., PECS)
**Why Bridge Language Learning?**

- Some students are baffled by the "temporary" nature of vocabulary in the devices and struggle to learn the vocabulary coding/navigation and organizational patterns in the device.
- Need real "hands-on" experiences with paper to process language and symbols and navigation and sequences.
- When learning language, keep everything "easy to access".
  - 1 hit system on MCB using SMPls that support pictures on the AAC system.
  - Icons (for PBC systems).
  - Transition to SGD (with no more than 2 hits).

**Kinds of “Bridges”**

- Paper versions of device vocabulary
  - Visi-Voca (Paper visual copy of voice output communication aid)

**Single Page with Activity Rows**

**A Single Sheet System with multiple meaning icons**

**Kinds of “Bridges”**

- Paper versions of device vocabulary
  - Visi-Voca

- Language Building Boards - Materials that allow students to manipulate the symbols on the device and the semantic or navigational sequences used to retrieve words.
  - Flashcards (like Fokes Sentence Builder).
  - Wall charts of interchangeable pictures.
Kinds of “Bridges”

- Paper versions of device vocabulary
  - Visi-Voca
- Language building boards
- Activity or story boards – have a limited number of vocabulary, but placed on the board in keeping with the architecture of the device (as closely simulated as possible)

Words for Mediating/Regulating Any Activity

- Simulates layout of pictures on AAC device
- Provides practice in motor plan

Board with 80 words for Reading
BRIDGES

- Paper versions of device vocabulary
- Language building boards
- Activity or story boards
- Descriptive environmental engineering – Materials that emphasize “what do” instead of “what is”

Descriptive Labels

De-Contextualization

Make-Over “Jobs”

- Make Visi-Vocas for device users
- Develop plans for using low-tech materials “bridges” for learning and functionally using permanent, re-useable vocabulary
  - Language building materials
  - Activity and story boards
  - Descriptive environmental engineering

PART 2: HUMAN FACTORS

Human Make-Over Challenge #1

Decide that, as an SLP, your primary job is to SUPPORT LANGUAGE DEVELOPMENT and then provide well-rounded language intervention, based on NLD, in therapy and in classroom activities. Vow to be a therapist and NOT a programmer!
Language Therapy & AAC

• Do "traditional" therapy in modified ways
  1. Pragmatics
  2. Vocabulary
  3. Syntax
  4. Morphology
  5. Discourse
• Modify materials to accommodate AAC system

1 - Pragmatic Teaching

• Establish environments/set-ups that provide communication opportunities
• Modify your behaviors to promote communication initiation
  – Create barriers
  – Feigned stupidity
• Provide logical consequences
• Pixon Project Kit — pragmatically driven

“Script” for Pragmatics

Order of words
• What
  – Look
  – Help
  – All gone/gone
  – More
  – Do
  – Again
  – All done/finished
  – Different
• Stop

Implementing the Script
• Generally start with "what" and end with "stop"
• OK to rearrange the order of the words to fit the activity
• OK to emphasize 1 or 2 words
• OK to omit a word

Module 1: Teaching Routine

• Provide the “materials” of the activity to the person in such a way that he/she doesn’t know what the activity is all about (e.g., put them in a container, bag, or other barrier).

• What
  – Help
  – Look
  – All gone/gone
  – More
  – Do
  – Again
  – All done/finished
  – Different
• Stop

Module 1: Teaching Routine

• Create a barrier or difficulty so the person needs to request assistance.

• What
  – Help
  – Look
  – All gone/gone
  – More
  – Do
  – Again
  – All done/finished
  – Different
• Stop
Module 1: Teaching Routine

- Model and prompt the word "help."
  - Sometimes I have to "help" you do things.
  - Let me know if you need "help."
  - Say "help" and we’ll do it together.
- Expand
  - "help me," “you need help,” “I help you”

Module 1: Teaching Routine

- Model and prompt the word "look."
  - You can "look" at what I brought.
  - You need to ask to "look."
  - Say "look" to see what I brought.
- Expand
  - "I look." “want look.” "I want look."

Module 1: Teaching Routine

- During activities involving objects (snack, art supplies, cooking), forget or lose one of the key materials for the activity. Or don’t give the person enough of something needed so he/she runs out and has to say "all done."

Module 1: Teaching Routine

- What
  - Help
  - Look
  - All gone/gone
  - More
  - Do
  - Again
  - All done/finished
  - Different
- Stop

Module 1: Teaching Routine

- What
  - Help
  - Look
  - All gone/gone
  - More
  - Do
  - Again
  - All done/finished
  - Different
- Stop

Module 1: Teaching Routine

- Continue participating in the activity, emphasizing a variety of actions.

Module 1: Teaching Routine

- What
  - Help
  - Look
  - All gone/gone
  - More
  - Do
  - Again
  - All done/finished
  - Different
- Stop
Module 1: Teaching Routine

- Model and prompt the word "do" for a variety of the actions (e.g., color, glue, cut, tie).
  - I can do lots of things.
  - I’ll do it. You tell me when you’re ready to do it.
  - Say "do" and you can do it too.
- Expand

Module 1: Teaching Routine

- During activities involving action (music, reading, cooking), use moderation with the action.
- Model and prompt the word "again."
- Expand

Module 1: Teaching Routine

- What
  - Help
  - Look
  - All gone/gone
  - More
  - Do
  - Again
  - All done/finished
  - Different
- Stop

Module 1: Teaching Routine

- If you are using a variety of materials/actions, decide when you are "all done" with one of the objects/actions (but not finished with the activity).
- Model and prompt the word "all done."
- Expand

Module 1: Teaching Routine

- If you're not done and have other things to do or use, encourage the person to indicate he/she wants to select an alternative activity or object.
- Model and prompt the word "different."
- Expand

Repetition with Variety ....

Do a different activity, but target the same pragmatic functions and the same words.
Pragmatics & Core in Any Activity

Step 1: Select Activity

Step 2: Form Your Plan

“Training Others” Activity

- Break into groups.
- Discuss how you would do the same 10 words in 3 other activities.
  - Cooking
  - Art Project
  - Laundry
- Write out a simple “script” for the activity.

1. what
2. help
3. look
4. again
5. all gone/gone
6. do
7. more
8. different
9. all done/finished
10. stop

2 – Teaching AAC Vocabulary

Core Words & Pictures

- We have to assume that AAC users have receptive language deficits and concepts have to be taught in conjunction with pictures for those concepts
- Pictures for core words are never guessable or “concrete” because they are NOT picture producers
- Learning and using the words is taught via conceptual learning and motor learning

Whenever possible, use pictures for core words that have a strong, meaningful metaphor that is teachable.
Teach Concepts & Metaphors
(from PLLAN)

- Teaching Object Pronouns (me, her, him, you)
  - Module 2
  - Wrap a small box in wrapping paper, doing it in a way so you can open it and put things in and out of it. Simulate the person represented in the box.
  - Say "Who is this for?" while modeling "who is it?" and then "It could be for me or you or him or her." While modeling "me, him, her, you." Give it to the person and let them open it up and see what is inside. Put something inside that the person can keep (e.g., small pieces of candy, pennies). Then have the person hide something in the box and say that it is for "you, him, her."

Teaching Strategies = Masking

- Using MASKING
  - Helps to visually locate words
  - Reduces random selections
  - Requires preplanning to make them

Teaching Strategies = Highlighting

- Foam frames
- Craft stick frames, pointers
- Post-it Note frame
- Adhesive putty/tack
Teaching Strategies – Props & Costumes

Wanted “root”  Negative – “not”

Teaching Word Groups - Strategies

- Visual strategies
  - Color-code
  - Visual spacing between word groups (carrying case)
- Learning and Memory strategies
  - Themed pointers
  - Songs and jingles
  - Humanization metaphors

Color Code and Humanized Groups

BCL 1975, GVT, 1980

- Verbs (green) = Herb Verb or Mr. Action Man
- Nouns (orange) = Mother Hubbard
- Adjectives (dark blue) = Art Tist
- Adverbs (light blue) = Ed Verb (Herb’s brother)
- Interjections (pink) = Interjection Joe
- Determiners (orange) = The Determinator
- Conjunctions (white) = Connie Junction
- Prepositions (purple) = Bob the Builder
- Questions (bright pink) = The Riddler
- Negation (red) = The Knotty Guy

Costumes & Songs for Characters

Verbs – Mr. Action Man  Adjectives – Art Tist

Part of Speech Song – For Interjections

Sung to: If You’re Happy and You Know It

- Verse 1:
  If you’re walking down the street, say “hello.”
  If you’re shocked and surprised, just say “oh.”
  Say “excuse me” if you fak.
  Interjections pop in everywhere we go.

- Verse 2:
  If you have to go away, say “good-bye.”
  When you come back again, just say “hi.”
  Yell out “boo!” to surprise me.
  Then “chill out” or just “scary.”
  Interjections pop in everywhere we go.
Learn the Location on the Board

- 4 basic architectural strategies
  - Semantic organization
  - Grammatical organization
  - Situational/environmental organization
  - Visual scenes
- Visual “styles”
  - Color coding
  - Groupings (semantic, setting, topic, etc.)
  - Alphabetical arrangements

Teaching the Architecture

- Traditional Strategies
  - Visi-Voca (for devices)
  - Vocabulary Charts
  - Word webs to teach “relationships” between words and codes
- Allow AAC user to “add” new vocabulary themselves
  - Maintain consistency in the “rules” of the organization

Vocabulary Chart

Word Webs - Semantic Organization

Expanding Vocabulary

- Vocabulary versatility strategies
  - a necessary strategy to expand any AAC vocabulary set, especially for pre-literate or non-literate individuals
  - a valuable strategy for vocabulary building with any student with language disability

Versatility with Word Altering Strategies

- Same as
- Opposite of
- Part of
- Picture Part of
- Looks like
- Same Group
- Join Words
- Starts with (letter)
Client-Focused Therapy

- Look at his/her immediate communication needs that creates quick success
- Create activities around interests
  - books – paraphrase text
  - lyrics – “rap” songs
  - scripts – adapt words in mini-scripts of 2 or 3 lines
- Select words to teach based on
  - normal language development
  - valuable phrases (I am going, I want, Can I)
  - language samples

3 – Teaching Syntax & Morphology

- Aided Language Stimulation (ALsG) by communication partner
  - Use strategies used with speaking students
  - Work on goals in the Modules
- Visual Strategies (used, not written about in PLLAN)
  - Color-coded building blocks / sentence strings with beads
  - Parts-of-Speech Partner-Pairs
  - Language Building Boards

Sentence “Sticks”

Language Construction Strategies

- Write out what they are saying with color coded markers/line drawings
- Use “pull-off” symbols to create a semi-permanent record of the message

Self Eval/Correct Questions

- Is it a complete sentence?
  – good enough for people who don’t know you to understand you
- Are the words in the right order?
  – so people aren’t confused
- Are the right words being used?
- Are there any missing or extra words?
  – check for verbs and then “little” words
- Are you using the right word endings?
  – check those verbs first

Duncan

- Reviewed LAM sample (meaningful, self-generated language)
- Selected 1 verb tense pattern pervasive in the sample
  – “I did” “verb” instead of past tense, especially for irregular verbs
4 – Teaching Discourse

- Social conversation is a HUGE issue for most AAC users
  - “Learned passivity”
  - Egocentric, needs-based communication
  - Individuals “on the spectrum”
- Implement social communication curriculum with modifications for special AAC issues
- Work on Narrative Development

Normal Narrative – 5 year old

Emerging Narrative – “Turn Talking”

Generative Q & A Narrative

Posted on YouTube – search for videos by vantatenhove

Human Make-Over Challenge #2

Learn to MODEL, PROMPT, and RESPOND in ways that encourages the person using AAC to produce improved language
“When I in school, I no seen anyone like me. My teacher not knows what in machine and she not talk me. I uses old board her and she know what do it. She talk me on board and help me learn talks better.” – Duncan

Handivoice 110

- Color coded levels
- 373 printed words and 16 short phrases
- Phonemes, not letters

Three Critical Communication Partner Behaviors
- Model Language through Aided Language Stimulation
- Prompt Hierarchy
- Response Strategies

Learn to Talk with AAC
A Review of Aided Language Stimulation

Been Around a While
- Called by different names
  – Partner-Augmented Input (PAI)
  – Natural Aided Language (NAL)
  – Aided Language Input (ALI)
  – Aided Language Stimulation (ALS)
- Promoted by different people
  – Goossens’, Crain, & Elder (1992)
  – Romski & Sevcik (1996)
  – Cañiero (1998)

Contemporary Research
- Augmentative Communication News (Summaries)
  – Sept 2006 (Vol. 18. Number 3) – 16 pages of info on ALS
  – Go to [www.augcominc.com](http://www.augcominc.com)
  – Single copy issue = $20
- Shakila Dada (2004 – U of Pretoria, South Africa)
  – It is useful to teaching receptive vocabulary
- Cathy Binger (2004 – Penn State)
  – It is useful for teaching basic syntax (2 and 3 part utterances)
- Shelley Lund (2003 – Penn State, U of WI-Milw.)
  – It is useful for teaching morphology (after 320 models)
Doing ALgS

- Students with Manual Communication Boards
- Students with Robust Speech Generating Devices

Use MCB
Use Device
Use Visi-Voca
Use NALB

Jennifer – Eye Point MCB

Melissa – Pathfinder with Unity128

Principles of ALgS

- Model maximum language possible and necessary without overwhelming the student
  - 1 or 2 words beyond current language output level
  - Based on target vocabulary, language level, or target concepts in the lesson
- Model at a rate SLOW enough for student to observe vocabulary selections, word combinations, and codes or navigational sequences
- Pair with speech as needed

Prompt Hierarchy

- Expectant Delay (a comprehensive strategy)
  - Watch & Wait for 10 – 15 seconds
- Open-Ended Prompts (with expectant delay)
  - “We have fun things to do today.” [state, then watch & wait]
- Directed Prompts (with expectant delay) with more and more detail about what you want them to say
  - “You need to ask a question.” [suggest]
  - “You could say ‘what’ to find out ‘what’ we’re doing.” [suggest]
  - “Say the word ‘what’ to find out ‘what’ I brought.” [assist – with visual prompt]
- Physical prompt
  - “Let me help you say ‘what’.” [assist – with physical prompt]

Response Strategies

- Correct (order, ending, word choice)
  - “You said ‘home,’ but that’s not what we’re talking about.”
  - “You said ‘in’ – what,” not ‘what in’
- Confirm
  - “Yes, you want to know ‘what’ is in the bag.
- Expand
  - “Yes, you want to know ‘what’ is in the bag.
- Connect
  - Student = said “excited”
  - Teacher = You are excited because . . . .
- Comment = “Yes, you can open it and look inside.”
Extreme Make-Over: The AAC Edition
Gail M. Van Tatenhove, PA, MS, CCC-SLP
www.vantatenhove.com gvantatenhove@cfl.rr.com

**Melissa – with Pathfinder**

**Outcomes with Device-Based ALgS**
- How many models of a word, using the person’s own device, have I provided before I started seeing the person use that word later on by him/herself?
    - Range of 50 to 100 models (2 included students)
    - Range of 100 to 125 model (3 MR/DD adults)
  - Casey (2008) – LAM data
    - Range of 100 – 120 models (1 MR/DD adult)

**Human Make-Over Challenge #3**

Learn to **TEACH, TALK WITH, AND TEST**
students using descriptive strategies with high frequency, re-useable common core words

---

**Balancing Act**

**Teacher Style and Speaking Students**
- Referential Style
  - Speaking children use lesson-specific words (context specific)
  - Many words in the lesson are new to them
  - Quick, one-word responses are the norm with usually 1 correct answer
- Descriptive Style
  - The words needed are usually already in their language banks (non-context specific)
  - Encourages oral Q&A sessions
  - Answers are multi-word descriptions or explanations

Bakar, 2005
The Referential Style with AAC Users
- Designed to elicit short, simple answers instead of multi-word answers
- Feels "efficient" and "easy"
- Easy to grade
- Forces pre-literate AAC users to have context specific, specialized vocabularies which change frequently on a daily, weekly, or monthly basis
- Places the emphasis on extended vocabulary rarely used outside of the lesson, instead of core vocabulary used for a lifetime

The Descriptive Style with AAC Users
- Designed to elicit multi-word answers
- Takes more time
- Feels more challenging
- Requires teachers to know what words are in the device and how to get them out
- Allows students to use a stable vocabulary
- Gives students more practice putting words together
- Helps students use common, non-context specific words in different situations
- Supports literacy

Goal = Shift Balance with AAC Students
- Referential
- Descriptive

Helping Teachers
- Cognitive = Train them on the difference between Referential (context-specific) and Descriptive (non-context specific) teaching-talking-testing
  - Constructivism
  - Bloom's Taxonomy of Learning
  - State Standards (name, describe, discuss, explain, compare)
- Behavior = Assist the teacher in APPLYING this information and shifting their balance

Constructivism
Learning is the result of "mental construction." Students learn (construct knowledge) by fitting NEW information together with what they already know, not by passively receiving instruction and repeating ideas.

Application to AAC
- What does the student already have available and is learning/knows?
  - Critical words already in the device
- What "new information" is being taught?
  - Vocabulary words and concepts introduced in the lesson
- Constructivist Approach = Instead of programming more and more words into the AAC device for vocabulary in the lessons, the student communicates those new ideas with high frequency, re-usable words already in his/her vocabulary system.
Bloom's Taxonomy of Learning

- People learn in 3 domains
  - Cognitive
  - Affective
  - Physical & Motor Skills
- Cognitive Domain Levels
  1. Knowledge
  2. Comprehension
  3. Application
  4. Analysis
  5. Synthesis
  6. Evaluation

See DTM Planning Form

Changing Teacher Behavior

- Look Listen Learn before Lead
- Provide examples, support, reinforcement, and assistance
  - SLP (in class, by teaching core in therapy)
  - Teacher Role Models (in school, in learning communities)
  - Administration
  - Parents (R. Hurd)
- Suggest gradual changes
- Measure student performance results

Disclaimer

- The content words of the lesson are NOT “bad” words.
- Hearing and learning about those words are important for language enrichment, but saying those words with the AAC device, when the person hasn’t learned the “core” words, is not a good use of time.
- As the person masters “core,” content words can be added (or said via spelling/word prediction.)

Step 1: Look – Listen - Learn

- Observe the classroom (sample different times/days)
- Record
  - Classroom Activity and Materials
  - Communication Partner Skills
  - Student’s Participation (with/without device)
  - Social Interaction
  - Device Logistics
- For all of the above, note barriers to successful use of device

Classroom Activity/Materials

- Calculate % of referential vs. descriptive styles used in oral activities
  - with normally developing students
  - with student using AAC
- Decide how/who to modify materials
- Decide what new materials might need to be made or technology used

Student Participation

- Types of learning “groups”
  - Entire class
  - In small groups
  - In 1:1 activities
- How much....
  - Self-Initiated Participation
  - Prompted Participation
  - Guided Participation
- What kind of language is produced?
- Calculate % of given opportunities taken
Analyze Communication Partner Skills

- Opportunities planned/provided
- Timing (expectant delay, pace, etc.)
- Prompting
- Responding

Social Interaction

- What kind of talking is happening between students?
- Which peers would make good peer helpers?
- What’s happening between the AAC student and peers during non-class time (recess, lunch)

Device Logistics

- How often is device with/not with the student?
- Is the device positioned for reliable access?
- Is it charged, connected, etc.
- Does the device have adequate core vocabulary that is retrievable by the student?
- Is there appropriate social vocabulary (Pledge, names of people, etc.) and predictable educational words (add, subtract, etc.)
- Are device features being used to promote success (e.g., vocabulary masking)

Social Interaction

Expect that there will be MANY issues to address.

For now, we are tackling the issue of
Referential vs. Descriptive
Teaching/Talking/Testing

Step 2: Share and Discuss

- Share what you observed
  - Focus on the positive first (how much the teacher is already doing descriptive teaching)
  - Discuss what kind of changes can be made without totally altering the class
  - Be frank, but kind
  - Reassure that you are trying to make her job easier and help her help her AAC student
- Discuss how to start
  - Start simple
  - Don’t expect big differences right away in yourself or the student

Step 3: Review a Lesson

- Have the teacher select a lesson on which he/she is currently working
  - Parts of a Plant
- Look at the key concepts of the lesson and talk about how the teacher will “define” those concepts
- Talk about how she would do the lesson with the students in her class
The Teacher will

- Show and describe the different parts of the plant
  - top part, pretty part
  - long, middle part
  - outside, side parts
  - bottom, under ground
- Discusses the functions of the parts
  - photosynthesis

Step 4: Review Lesson for the AAC User

- See if the KEY words are in the student’s AAC system (flower, leaves, root, stem, photosynthesis)
  - Computer versions of software (PASS)
  - Paper documentation (manual)
  - Targeted core and classroom word chart (NALB)
- Practice finding KEY words in the student’s AAC system (flower)
  - See if the CORE words used for the definitions are in the student’s AAC device
  - Adjust the definitions based on available core words

Modification for Jordan

- Verbal checks & practice activities
  - Point with eyes to the printed words on 4 cards
  - Say “flower” with his device
  - Describe the parts with core using 1 or 2 words
    - top or pretty
    - middle or long
    - side or outside
    - bottom or under

Practice Using the Wall Chart

- Don’t assume the chart is self-explanatory
- Call it something that is familiar to the teacher (e.g., “Word Wall,” “At-A-Glance” Vocabulary Chart)
- Explain how the chart provides the “code” to the words in the machine
  - Minspeak icon sequence
  - Page-based navigational sequence

Practice with the Wall Chart

- Show how the words are organized
  - Part of Speech (with color coding)
  - Alphabetical order (except for people words)
  - Interrogatives in the “word group” that answers the question
  - Blank spaces to add more words
  - “Short term” parking at the bottom for temporary words
- Practice finding words

When MUST SAY Words NOT in the Device

- Temporary solutions
  - On quick & dirty topical manual boards
  - On sticky notes
  - On NALB written in erasable marker in “short term parking” section of the board
- Word Altering Strategies (WAS)
  - Same as
  - part of
  - compound
  - added to
  - add to front
  - suffix/prefix
  - part of speech
- Adapt current materials
- Program them in the device
Show an Example DTM Lesson

Steps
- Identify and introduce the key concepts of the lesson
- Teach and ‘talk back’ about the concepts
- Review and test learning

Identify

Example Lesson

Teach/Talk Back

Review/Test

Share Stories of Success

- What is the job of the leaves?
  - light into food (photosynthesis)
- Why are plants important to us?
  - food to eat
  - make clean - in nose (clean the air)

Step 5: Future Lesson Planning

- Provide a structure for helping the teacher "organize" a lesson with the new approach
- Show the teacher "lessons" organized by other teachers
- Offer the use of a pre-developed Lesson Planning form, if needed

Subject Area: Science, The Nature of Matter

Textbook/Material Information: Sunshine State Standards – Strand I, Benchmark 1

Curriculum Goal: The student knows that objects can be described, classified, and compared by their composition and physical properties

Other: knows objects have different properties, can be grouped by properties

Date Developed: 9-21-07 By: Ms. Martin

Key Concepts of the Lesson
1. Color words
2. Shape words
3. Form words
4. Texture words
5. Size/Weight words
6. Effects of Heating and Cooling

Content Words/Vocabulary

- word concept: heat/energy
- shape words: triangle, rectangle
- color words: red, blue
- size/weight words: big, small

- YES: and, in, on, with, etc.
- NO: no, not, etc.

- other: and, in, on, with, etc.

- teach: teach, define, make, use, etc.

- assess: assess, evaluate, judge, etc.
Complete worksheet.

Possible Challenges

- Multiple kinds of AAC devices and/or programs used in a classroom with multiple kinds of picture representations
  - Use 1 main critical vocabulary board for teacher to teach and test with the available vocabulary (no pictures) and personal boards by the students' desks (with pictures)

Coping with Teacher Anxiety

- One to three core word definitions tell you a lot about student learning
- Start gradually and build up using this approach until it starts to feel natural
- You don’t have to do DT for everything, but should have some in all lessons (30 – 40%)
- Visual supports will be provided to help you and the assistant/aide

Possible Challenges

- Teachers moving around the room &/or school
  - Make NALB as a free-standing or portable board
  - Make several NALBs to post around the room
  - Make NALB onto a flip book
- Lots of “independent” or small group working time
  - Create “stations” with NALB posted
  - Use peer helpers

NALB “Station” for Writing Time

Are teachers really doing this?

- Teachers and class levels
  - Aides more than teachers
  - Regular education more frequently than special education teachers
  - Preschool and elementary more than middle or high school teachers
Are teachers really doing this?
- Initially doing planning forms for selected activities and lessons
  - 1 to 10 plans with support of SLP
  - Begin to implement DTM without pre-planning after 3 to 4 months of consistent use
- Visual support materials
  - Using mostly NALB
  - Little time for anyone to modify more materials

Subjective Outcomes
- Teacher Outcomes
  - Slower speech rate & shorter sentence length
  - Emphasizes gaps in critical vocabulary when rehearse and do lesson
  - Builds natural support networks
  - Helps other students in the class with learning challenges
- AAC Student Outcomes
  - More active learners
  - Testing results are higher and more reliable
  - Improvements in reading/writing skills
  - Increases in multiple word production in AAC device

Objective Data of DTM
- Language Activity Monitor samples taken over the school year on 3 students with high tech devices
  - Student 1: Vantage with Unity45, 1st grade
  - Student 2: Vanguard with Unity84, 2nd grade
  - Student 3: Pathfinder with Unity128, 5th grade
- Each student tracked on 100 key vocabulary words and length of utterances used in spontaneous, self-generated communication collected from a sample of 2 weeks use of the device
  - No specific therapy done on these 100 words

Objective Data of DTM
- Each student tracked on 100 key vocabulary words and length of utterances used in spontaneous, self-generated communication collected from a sample of 2 weeks use of the device
  - No specific therapy done on these 100 words

Vocabulary Use & Sentence Length
- Student 1: U45 Sequenced in VT
  - Using 12/100 key words in August 2007
  - Using 74/100 key words in April 2008
  - MLU-M increased from 2.30 to 4.37

Vocabulary Use & Sentence Length
- Student 2: U84 Sequenced in VG
  - Using 33/100 key words in August 2007
  - Using 81/100 key words in April 2008
  - MLU-M increased from 3.71 to 6.29
Vocabulary Use & Sentence Length

- Student 3: U128 Sequenced in PF
  - Using 42/100 key words in August 2007
  - Using 99/100 key words in April 2008
  - MLU-M increased from 3.82 to 7.25

Testimonials

Lucy (aide): I never knew what was in the machine or how to say it. Now I do!

Cynthia (teacher): It helps me know what the student has learned. And it is so much easier to work with him!

Make-Over “Jobs”

- For students with limited vocabulary in their AAC device, make a NALB with as many core words as available (50+)
- For students with robust AAC systems, make a student-specific “At-A-Glance” display of 300 – 400 words for use in the classroom, home, and therapy
- Collaborate with the teacher to improve each other’s communication partner skills
- Confer with the teacher to decide what other classroom supports she/he needs in order to promote generative language in the classroom

CONCLUSION

- Implementing an Extreme AAC Make-Over involves
  - Changing Stuff
  - Changing Our Behavior
- The OUTCOMES are worth the remodeling efforts

Thank you!

Gail

www.vantatenhove.com
gvantatenhove@cfl.rr.com
YouTube - gvantatenhove