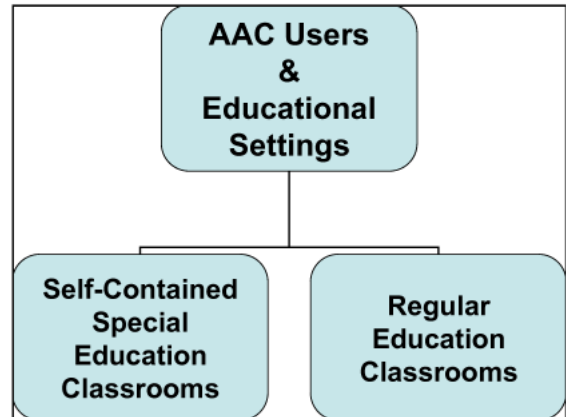


Extreme Make-Over: The AAC Classroom Edition

By Gail M. Van Tatenhove



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

Teacher Quote #2

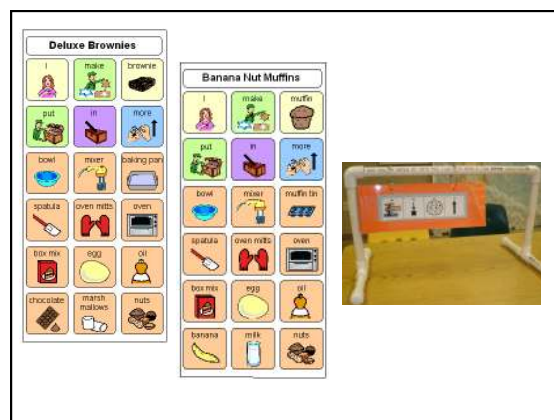
- “In my classroom, we identified the vocabulary that my students need to participate in our activities. We really try to focus on concrete words to keep things easy for our students. We now have between 500 & 1000 words. We pick out the words we need for each activity and put them on different displays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

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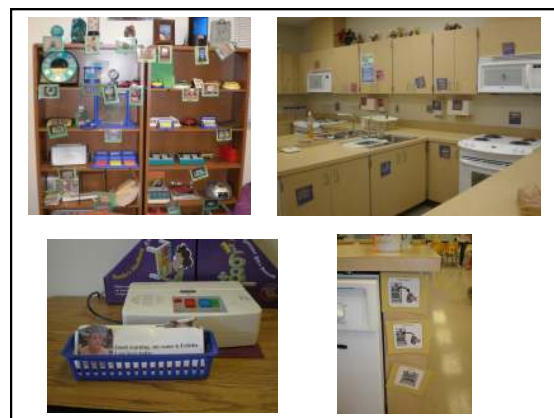
Teacher Quote #3

- “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.”



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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.”



- | | |
|---|--|
| <ul style="list-style-type: none">• Teaching Practices in ESE<ul style="list-style-type: none">– Functional activities emphasized– Repetition & routine are used– Language learning and use is important<ul style="list-style-type: none">• “Concrete” language• Teachers select symbols, displays, and pages– Participation is a common goal– Technology is in these classes (hi and low) | <ul style="list-style-type: none">• Concerns & Outcomes<ul style="list-style-type: none">– 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

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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



- From: Margaret P (SLP)
- Date: Friday, Sept 10, 2004
- Subject: Malpractice



“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.”



From: Mrs. G. (teacher)
Date: Friday, Feb 10, 2005
Subject: Classroom Participation

“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?”

- From: KM (SLP)
- Date: Monday, December 28, 2000
- Subject: Therapy with devices



“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?”

- From: Tracy (SLP)
- Date: Friday, March 5, 2004
- Subject: Poor language



“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.”

- Date: Friday, Sept 10, 2004
- From: Robin H (parent)
- Re: Malpractice



“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 am also including 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.”

What Do These Quotes Tell Us About....

Impact of
AAC
Technology

Teacher
Training &
Practice

AAC Technology's Impact

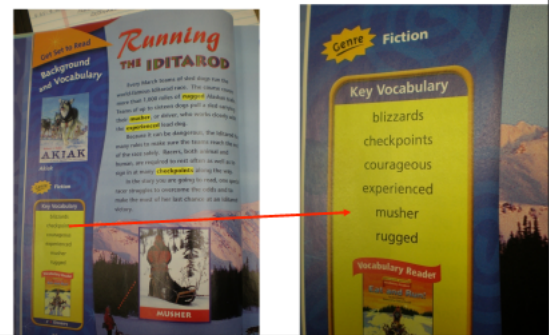
- Differences emphasized over similarities in student needs
- Teacher Time/Pace constraints
 - Priorities on “quick & easy”
- SLP Support
 - Therapy time spent programming vs. supporting language
- Poor language and academic performance
 - Limited generalization and de-contextualization of language
 - 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

Vocabulary
habitat
survive
powerful
rare
wade

- 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

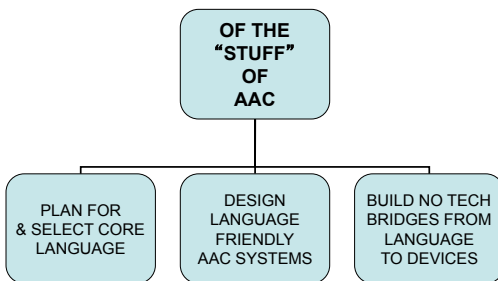
- Teachers assume their students have “learned to talk” so they can “talk to learn” – therefore, they take using core vocabulary for granted.



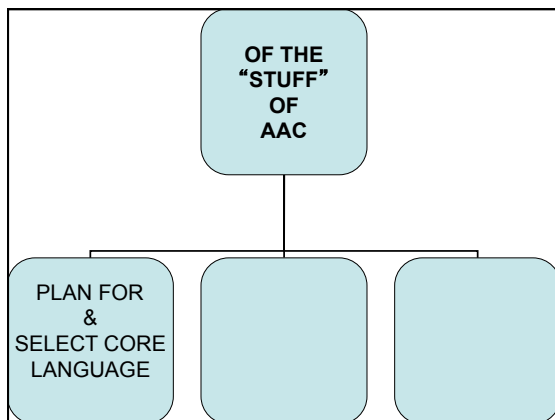
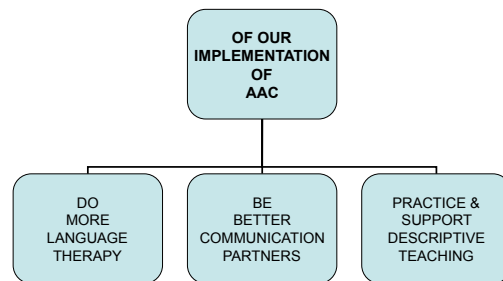
In the early grades, teachers are working on core vocabulary during spelling, reading, & language. So why is there still such an emphasis on extended vocabulary?

Time for an Extreme Make-Over

PART 1: MATERIAL FACTORS



PART 2: HUMAN FACTORS



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

Jordan

- 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.



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 | • Names/Nouns |
| • I feel happy | – morning |
| • I want to go like | – Gail |
| • Stop | – train |
| • I want go now | – airplanes |
| • I am going fast | |
| • I don't know | |
| • You sing and more louder | |

Vocabulary Breakdown

- | | | |
|-----------------------|---------------|------------------|
| • Good | • Names/Nouns | • Verbs |
| • I happy | – morning | – feel |
| • I | – Gail | – want (2) |
| • | – train | – go/to go/going |
| • | – airplanes | – like |
| • I now | | – stop |
| • I fast | | – am |
| • I | | – don't |
| • You and more louder | | – know |
| | | – sing |

Vocabulary Breakdown

- | | | |
|-------------------|---------------|------------------|
| • Good | • Names/Nouns | • Verbs |
| • happy | – morning | – feel |
| • | – Gail | – want (2) |
| • | – train | – go/to go/going |
| • now | – airplanes | – like |
| • fast | • Pronouns | – stop |
| • | – I (5) | – am |
| • and more louder | – you | – don't |
| | | – know |
| | | – sing |

Vocabulary Breakdown

- and
- Names/Nouns
 - morning
 - Gail
 - train
 - airplanes
- Verbs
 - feel
 - want (2)
 - go/to go/going
 - like
 - stop
 - am
 - don't
 - know
 - sing
- Adjectives
 - good
 - happy
 - fast
 - more
 - louder
- Adverbs
 - now

Vocabulary & Language Breakdown

Largest Word Class = Verbs

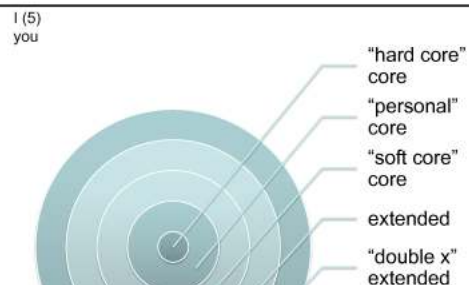
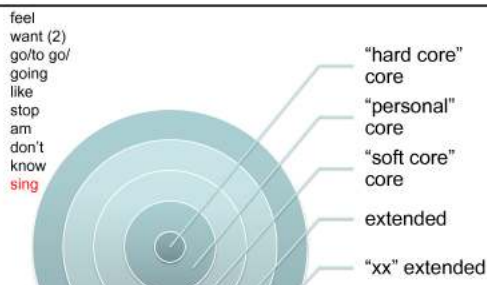
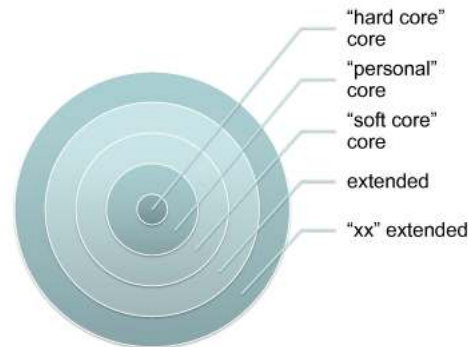
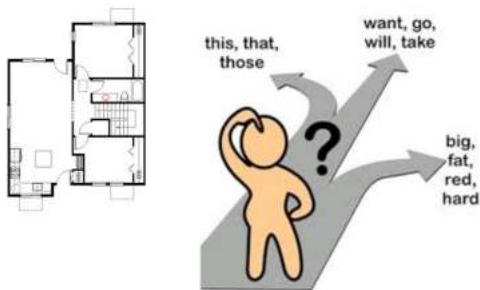
Second Largest Word Class = Adjectives

Most repeated word = I

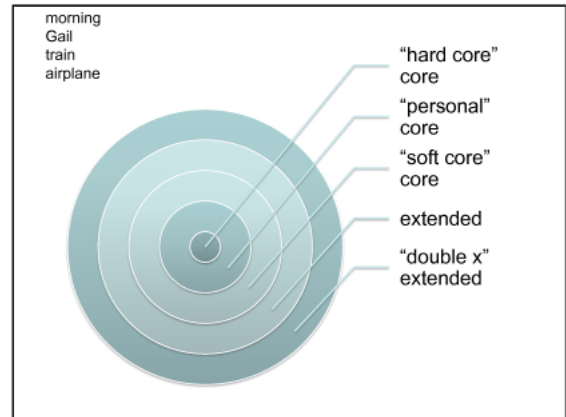
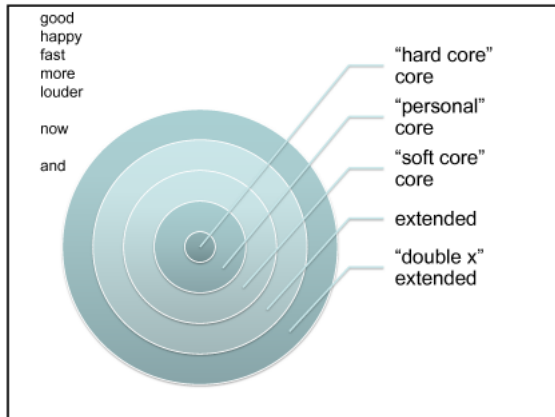
Morphological markers = to+, ing, +er, +s

- Names/Nouns
 - morning
 - Gail
 - train
 - airplanes
- Verbs
 - feel
 - want (2)
 - go/to go/going
 - like
 - stop
 - am
 - don't
 - know
 - sing
- Adjectives
 - good
 - happy
 - fast
 - more
 - louder
- Adverbs
 - now
- Conjunctions
 - and

Planning for Core Vocabulary



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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 = 60% 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

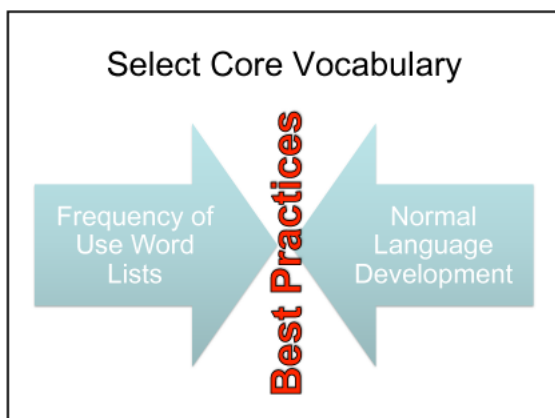
25/30 = 83%

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

Hard, personal, and soft core

The 50 most frequently occurring words account for 40-50 % of total words said, while the 100 most frequently occurring = 60% of what is said

hard core



+/- 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?

- | | |
|---|--|
| <ul style="list-style-type: none"> • List 1 – of – with – by – for – than | <ul style="list-style-type: none"> • 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

- | | |
|---|--|
| <ul style="list-style-type: none"> • Greet/Part <ul style="list-style-type: none"> – Hello, goodbye • Request object <ul style="list-style-type: none"> – That, please, cup • Request action <ul style="list-style-type: none"> – Want, get, do, up • Request assistance <ul style="list-style-type: none"> – Help, do • Request recurrence <ul style="list-style-type: none"> – More, again, another • Request information <ul style="list-style-type: none"> – What, why, where • Existence <ul style="list-style-type: none"> – This, that, look, see, there, here • Self/Possession / Person <ul style="list-style-type: none"> – Mine, you, it, he, she, mom | <ul style="list-style-type: none"> • Nonexistence <ul style="list-style-type: none"> – Uh oh, away, all gone, what • Disappearance <ul style="list-style-type: none"> – Away, all gone • Rejection <ul style="list-style-type: none"> – No, stop, don't, uh uh • Cessation <ul style="list-style-type: none"> – Stop, all done, finished • Comment/Describe <ul style="list-style-type: none"> – Like, bad, good, naughty, big, little, yuk, yum, hurt • Direct action/events <ul style="list-style-type: none"> – Go, help, stop, come, eat, read • Name <ul style="list-style-type: none"> – Car, shoe, cup • Associative <ul style="list-style-type: none"> – Big, hot, pretty, up, off |
|---|--|

Communication Functions & Words

- | | |
|---|--|
| <ul style="list-style-type: none"> • Greet/Part <ul style="list-style-type: none"> – Hello, goodbye • Request object <ul style="list-style-type: none"> – That, please, cup • Request action <ul style="list-style-type: none"> – Want, get, do, up • Request assistance <ul style="list-style-type: none"> – Help, do • Request recurrence <ul style="list-style-type: none"> – More, again, another • Request information <ul style="list-style-type: none"> – What, why, where • Existence <ul style="list-style-type: none"> – This, that, look, see, there, here • Self/Possession / Person <ul style="list-style-type: none"> – Mine, you, it, he, she, mom | <ul style="list-style-type: none"> • Nonexistence <ul style="list-style-type: none"> – Uh oh, away, all gone, what • Disappearance <ul style="list-style-type: none"> – Away, all gone • Rejection <ul style="list-style-type: none"> – No, stop, don't, uh uh • Cessation <ul style="list-style-type: none"> – Stop, all done, finished • Comment/Describe <ul style="list-style-type: none"> – Like, bad, good, naughty, big, little, yuk, yum, hurt • Direct action/events <ul style="list-style-type: none"> – Go, help, stop, come, eat, read • Name <ul style="list-style-type: none"> – Car, shoe, cup • Associative <ul style="list-style-type: none"> – Big, hot, pretty, up, off |
|---|--|

Normal Language Development Words

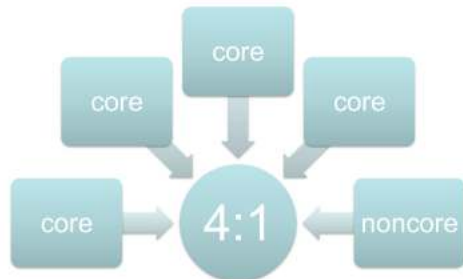
- Words that are used to express a full range of pragmatic functions
- Early emerging little words
 - Conjunctions (and)
 - Determiners (this, that, some, any) and indefinites (something, nothing, anything)
- Word endings (morphological markers)
 - “+ing”
 - +s (plural)
 - Contractions (it's, don't)
 - 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 (PXX-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. **Small set of nouns.**
2. Primarily using nouns from 15 – 18 months. **Short period of time!**
3. By 24 months, the child has 150 – 300 words and nouns no longer dominant.
4. By 26 months, the child is using 80% core and will for the rest of their lives.

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 Bryce)
- It falling
- Woop
- That keep falling
- That can't stand up
- See, that can't stand up
- Woop – uh
- Watch
- See stand up



100% core – self selected language

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



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Manual

Toddler Vocabulary Arranged by Frequency

Words	Percentage
I	9.5
No	8.5
Yes/yea	7.6
my	5.8
the	5.2
want	5.0
is	4.9
it	4.9
that	4.9
a	4.6
go	4.4
mine	3.8
you	3.2
what	3.1
On	2.8
in	2.8
here	2.6
more	2.6
out	2.4
off	2.3
some	2.3
help	2.1
all done/finished	1.0
	96.3%

26 core words shown at left comprise 96.3 percent of the total words used by toddlers in this study

Are any of these words picture producers?

Are these words commonly seen on language boards?

Hard Core Words

Banajee et al.

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.)

David R. Beukelman,
Rebecca Jones, and
M. Rowan
AAC, December, 1989,
Vol. 5/No. 4

Manual

333 Most Frequently Occurring Preschool Words: The Marvin Sampling

"Vocabulary-Use Patterns in Preschool Children:
Effects of Context and Time Sampling"

a	bite	doesn't	goes	hum	maybe	or	still	today	we're
about	black	dog	going	i	me	our	some	together	well
after	blue	doing	i'll	mean	ours	somebody	too	went	
again	both	don't	good	i'm	measy	out	someone	top	were
all	box	done	great	it	middle	over	something	toys	what
almost	boy	door	green	in	mine	paint	sometimes	trees	what's
already	bugs	down	guys	inside	mom	people	somewhere	try	when
also	but	drink	had	is	mommy	pet	stop	trying	where
an	buy	duck	hair	isn't	more	name	stuff	turn	where's
and	by	eat	hand	it	most	pick	swing	turtles	which
another	bye	eating	hands	it's	move	place	tape	two	while
ant	call	else	has	juice	much	play	tell	um	who
any	came	even	have	jump	must	please	than	up	who
are	can	everybody	haven't	jumped	my	push	that	us	whole
aren't	can't	everything	he	jumping	myself	put	that's	use	why
around	candy	face	he's	just	Name	ready	the	used	with
as	car	fall	her	kind	name	really	their	very	won't
at	catch	find	head	know	named	red	them	wait	would
away	cause	finger	hear	last	need	remember	then	want	ya
baby	chair	fire	hello	leaves	never	ride	there	wanted	yes
back	come	first	help	let	new	right	there's	was	yet
bad	comes	five	here	let's	next	room	there's	wasn't	you
bad	cookie	fixed	here's	lift	nice	run	these	watch	you'll
ball	corn	fly	hi	like	no	said	they	water	you're
bathroom	could	foot	high	little	not	same	they'll	way	your
be	couldn't	for	hill	long	of	saw	they're	we	yours
bean	cup	from	him	look	off	say	thing	we'll	
because	cut	found	his	looking	oh	see	things		
before	day	get	hold	lot	other	she	this		
being	did	gets	home	lunch	ok	she's	those		
bet	didn't	getting	home	made	old	show	three		
better	different	girl	hot	make	on	shut	throw		
big	do	girls	house	man	one	side	through		
bird	does	give	how	many	only	sit	time		
birds	doctor	go	huh	may	open	so	to		

Christine A. Marvin,
David R. Beukelman,
Debbie Stipan
AAC, Vol. 10, Dec., 1984

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 lucky.
- I at work.



28/30 = 96% of

conversational speech

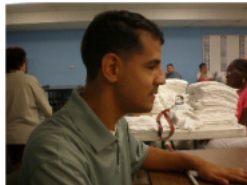
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MR/DD Adults that Talk

Clay – Down Syndrome



Joe – CP/Blind



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

"This paper reports part of a study of the oral vocabulary of the severely subnormal carried out during 1958 and 1959." Hypotheses are advanced to account for the existence of a small core vocabulary.

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

Mein, R., & O'Connor, N. (1960) A study of the oral vocabularies of severely subnormal patients. *Journal of Mental Deficiency Research*, 4, 130-143

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

L. Adamson, M. Ronski, K. Deffenbach, R. Sevcik, *Journal of Speech and Hearing Research*, Volume 35, 1333-1343, December, 1992

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 ✓

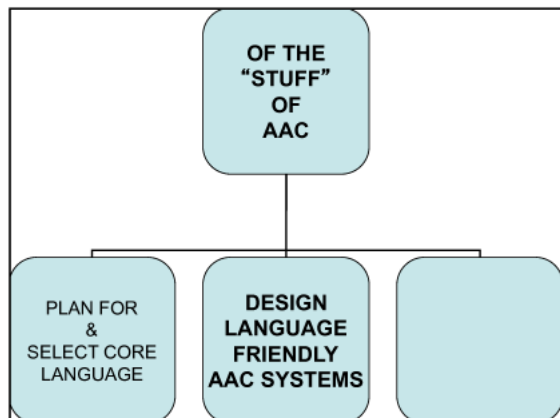
Low Cognition ✓

Giving Answers in Class

Hard to Teach

Make-Over "Jobs"

- Advocate for a language-based AAC curriculum in your school district
 - Check out the Pixon Project Kit
 - Create your own
 - Virginia (Spotsylvania)
 - Texas (Garland, Red Rock, 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 "stability" 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

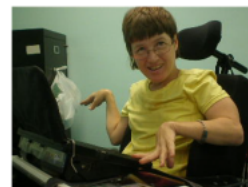
Language-Friendly Design Should...

- 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"

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Pixon 50/57 Board



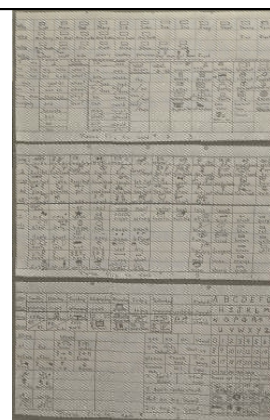
Large Foldable Board



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

Old Fashioned Multiple Sequential Design



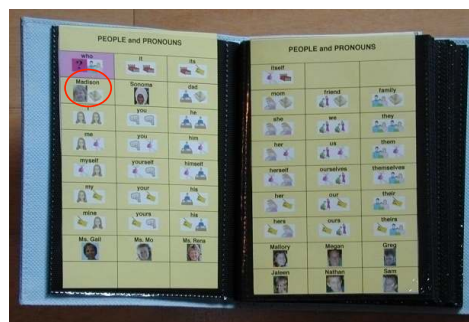
Multiple Sequential Design



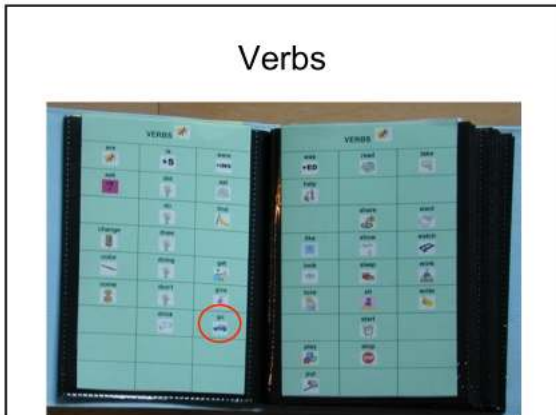
“Madison go out”



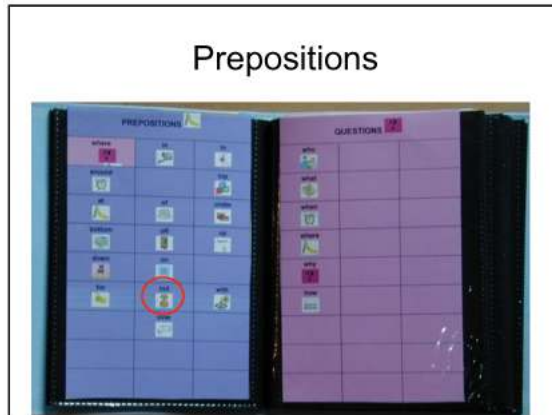
People



Verbs



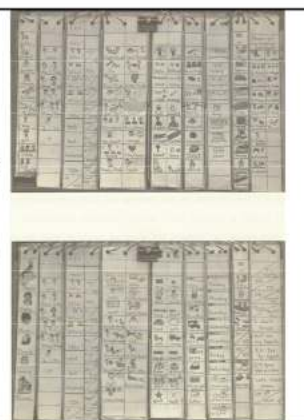
Prepositions



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



go to
www.vantatenhove.com for
 a PPT of directions with
 photos to make cloth
 carrying case
 or BUY a pre-made case

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



Pixon Board



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

Iowa Findings

- Multiple sequential for core
 - A reduction in language output by 40–60% due to
 - Memory load for having to recall words on multiple pages and the steps for getting to those pages
 - Conversational dissonance (forgot what they were going to say while flipping pages)
 - Physical effort to turn the page
- Children compensated by staying on a main core word display and using strategies to alter words (and language went back up by 40-60%)
- Use 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)

J's Custom Pixon Board



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

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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 with multiple meaning pictures
 - Page-based systems
 - core words repeated on pages (30 to 50/page)
 - short navigations for the top 50 – 350 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

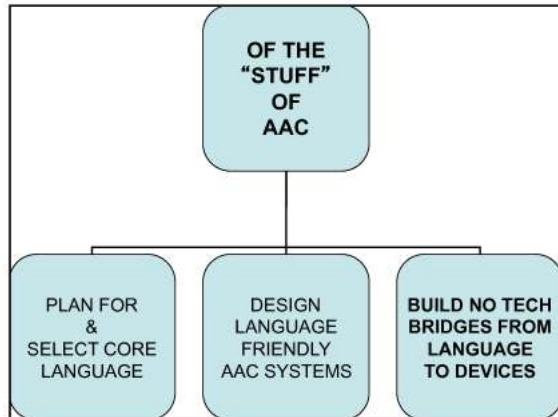
Make-Over “Jobs”

- 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

Jonathan



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)



Rudy – Behavior & Communication



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 SMPs that support pictures on the AAC system
 - Pixons (for PRC 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



Language Building Boards

Wall Chart with Remove-able Symbols



Kinds of “Bridges”

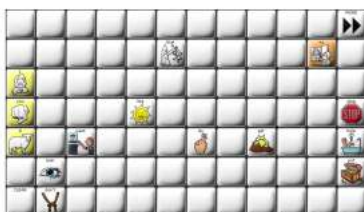
- Paper versions of device vocabulary – Visi-Voca
- Language building boards
- Activity or story boards – have a limited number of vocabulary, but placed on the board in keeping with the architecture of the device (as closely simulated as possible)

Storyboard with a Single Line



Words for Mediating/Regulating Any Activity

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



Board with 80 words for Reading



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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



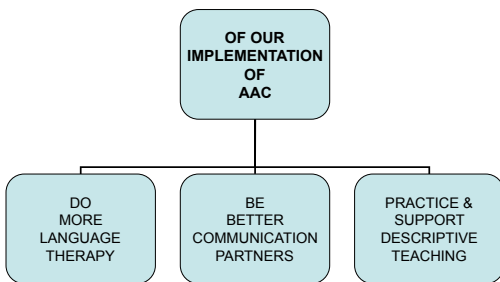
De-Contextualization



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

- Model and prompt the word “what.”
 - I brought some new things for you today and you don’t know “what” they are.
 - You need to ask me “what” I brought.
 - Say the word “what” to find out “what” I brought.
- Expand
 - “what in,” “what there,” “what in there”



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

- Options to Implement:
 - Look at the materials in the container, but don’t take them out.
 - Do something very out of the ordinary with some of the objects and draw attention with “look.”
 - Spend time looking at the materials you brought (book, cards, iPad game, etc.)
- What
 - Help
 - **Look**
 - All gone/gone
 - More
 - Do
 - Again
 - All done/finished
 - Different
- Stop

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

Module 1: Teaching Routine

- During activities involving objects (snack, art supplies, cooking), use “moderation” with the materials, encouraging the person to ask for “more” of something.
- 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.
- 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
- 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
- What
 - Help
 - Look
 - All gone/gone
 - More
 - Do
 - Again
 - All done/finished
 - Different
- Stop

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

Module 1: Teaching Routine

- Eventually, the activity comes to an end. (Also, at any point in the activity, the student has the option of asking to “stop” if s/he is bored, irritated, or ready to be left alone.)
- Model and prompt the word “stop.”
- Expand
- What
 - Help
 - Look
 - All gone/gone
 - More
 - Do
 - Again
 - All done/finished
 - Different
- Stop

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



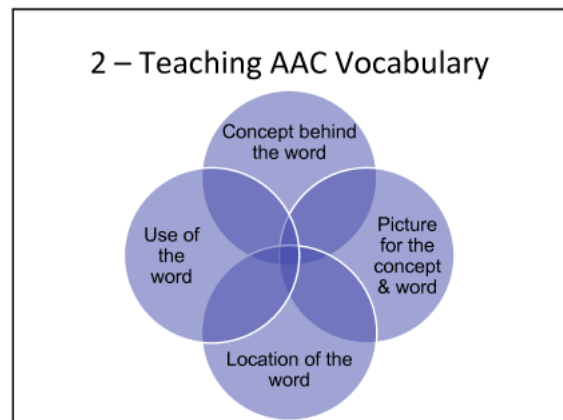
Step 2: Form Your Plan

Module		1	2	3	4	5	6	7	8	9	10
Target Student Vocabulary (all or some from module)		1. again	2. all done/finished	3. all gone/gone	4. different	5. do	6. help	7. look	8. more	9. stop	10. what
Type of Output Desired:		1 word	2 word	3 word	4 word	morphology					
Visual & Aural Vocabulary		To EXPAND					To CONSOLIDATE				
Needed:		11. get	12. I	13. you	14. there	15. yes	16. no	17. bad	18. like	19. not	20. what
<small>Use your judgment to decide how many of these words you will use during the activity. Circle what "must" and mark "optional" with an asterisk.</small>		21. go	22. is	23. this	24. that	25. who	26. how	27. why	28. what	29. when	30. where
Activity is an extension of a goal											
Materials Required											
Description "Naming" Words											
Doing an art project											
Helping with laundry											

“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

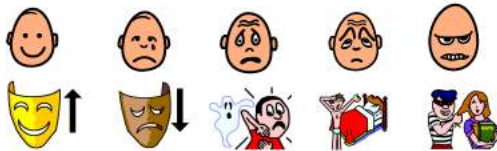


Core Words & Pictures

- 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.

Visual Images vs. Conceptual Pictures



Concept & Picture Teaching

Experiential Teaching

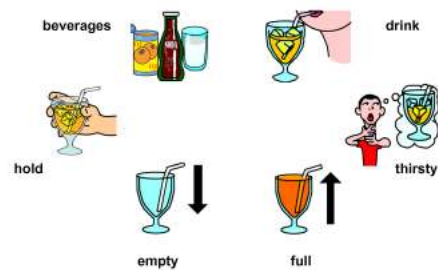
De-Contextualization



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 package represented in the Pixon.
 - Say "Who is this for?" while modeling "who." Say "It could be for me or you or her or him?" 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."

Props & Hands-on Associations



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



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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

BCI, 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



Costumes & Songs for Characters

Pronouns & People – Phil Photo



Question Words – The Riddler



?
word

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."
If a bug's on you, scream "eek,"
Say "excuse me" if you freak.
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 "sorry."
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

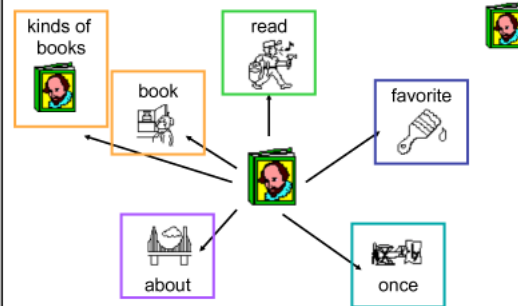
Teaching the Architecture

- 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



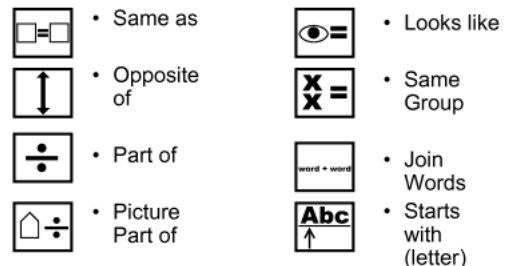
Word Webs - Semantic Organization



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



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 – apply 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 (ALgS) 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

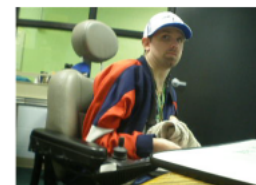


Self Eval/Correct Questions

- 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

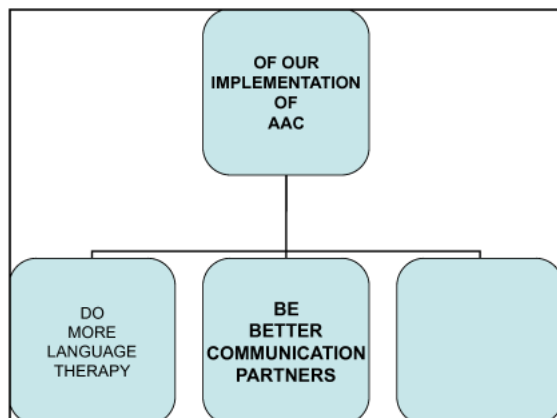


Emerging Narrative – “Turn Talking”



Posted on YouTube – search for videos by gvantatenhove

Generative Q & A Narrative

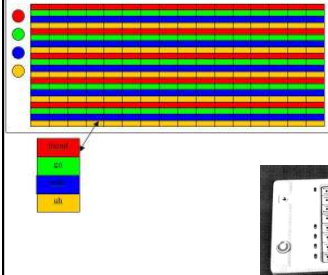


Human Make-Over Challenge #2

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

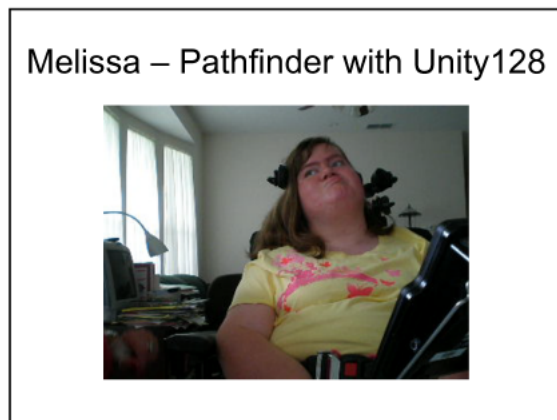
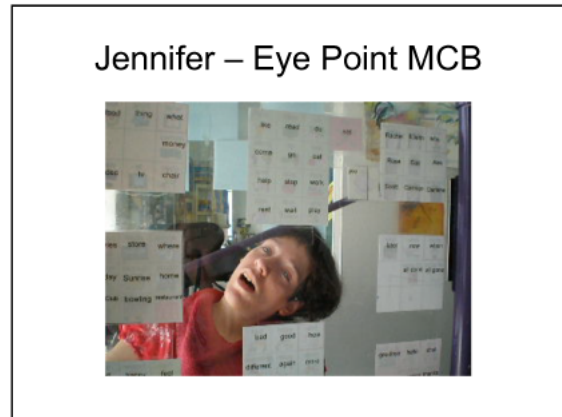
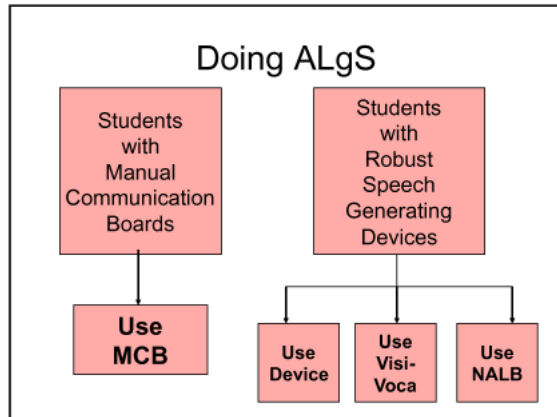
A Review of Aided Language Stimulation

Been Around a While

- Called by different names
 - Partner-Augmented Input (PAI)
 - Natural Aided Language (NAL)
 - Aided Language Input (ALI)
 - Aided Language Stimulation (ALgS)
- Promoted by different people
 - Goossens', Crain, & Elder (1992)
 - Ronski & Sevcik (1996)
 - Cafiero (1998)

Contemporary Research

- Augmentative Communication News (Summaries)
 - Sept 2006 (Vol. 18. Number 3) – 16 pages of info on ALgS
 - Go to 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)



- ### 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.”

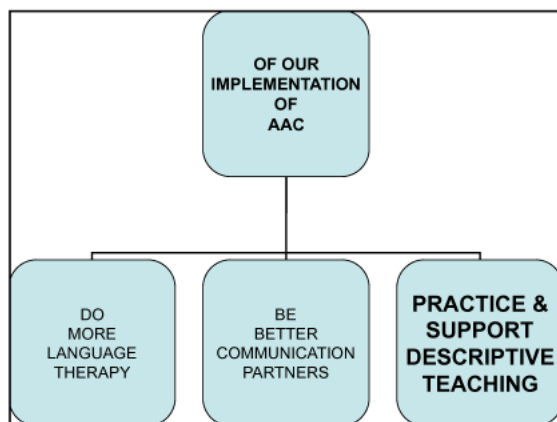
Melissa – with Pathfinder



MODEL
 PROMPT
 RESPOND
 1. Correct
 2. Expand
 3. Connect

Outcomes with Device-Based ALgS

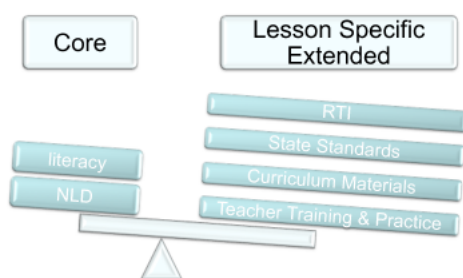
- How many models of a word, using the person's own device, have I provided before I started seeing the person use that word later on by him/herself?
 - Van Tatenhove (2006) – Using Language Activity Monitor (LAM) data
 - Range of 50 to 100 models (2 included students)
 - Range of 100 to 125 model (3 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

Baker, 2005

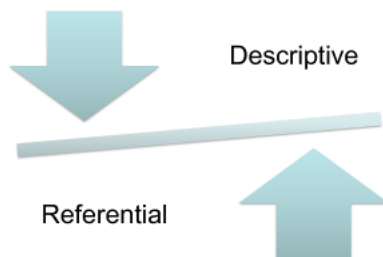
The Referential Style with AAC Users

- 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 life time

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



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
 - Attitudes
 - Physical & Motor Skills
- Cognitive Domain Levels See DTM Planning Form
 1. Knowledge
 2. Comprehension
 3. Application
 4. Analysis
 5. Synthesis
 6. Evaluation

**Descriptive
Teaching moves
kids through the
domain levels**

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.)

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

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

Mellman, L., DeThorne, L., Hengst, J., “Shhhh! Alex has something to say: AAC-SGD use in the classroom setting,” ASHA Perspectives, Division 12, December 2010.

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 has 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)

**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

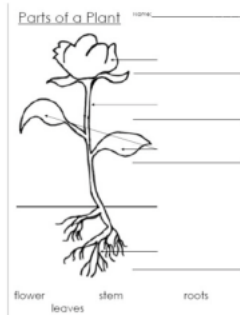
- Share what you observed
 - Focus on the positive first (how much the teacher is already doing descriptive teaching)
 - Discuss what kind of changes can be made without totally altering the class
 - Be frank, but kind
 - Reassure that you are trying to make her job easier and help her help her AAC student
- 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

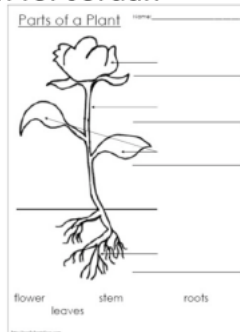


Step 4: Review Lesson for the AAC User

- 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
- Jordan will
 - 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 erase-able marker in "short term parking" section of the board
- Word Altering Strategies (WAS)

– same as	opposite of
– part of	join words
– starts with	sounds like
– add to end	add to front
– same group/family	part of speech
- Adapt current materials
- Program them in the device

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

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 1, 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	Need to say? Y/N	In/Added/Defined/Temp/WAS	critical Definition/WAS
color words	YES	all in	(see RAINBOW)
shape words	YES	all in	(see TRIANGLE)
texture words	YES	all in	(see FINGER)
size/weight words	YES	all in, but “size” - ADD	(see ELEPHANT, DICE)
form words	YES	only “straight”; define/WAS others	flexible = easy to move
			stiff = hard to move
			curve = go this way, that way, OPPOSITE OF straight
solid	YES	define	hard all the way through
liquid	YES	define	move easily, but not in all space
gas	YES	define	move easily to take up all space
evaporate	YES	define and TEMPORARY	change and go away

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Teaching/Testing Plans			
Learning Activities	ALGS Provided	Support Materials	Evaluation
Given a set of objects of different color and shape properties - sort and describe them, sort at least 2 different ways	Demonstrate classifying of words. Model "these" "all" "color/shape." "They" "all" "same" and "go" "together."	Objects and NALB	Will describe the characteristics of the different sets created with color and/or shape words. Ask "why did you put these together?" Accept: all same, colors words, shape words
Given a set of objects with different textures, sizes, and weights, compare the various objects and describe.	Demonstrate and describe. Model "this" and "that." "feel" and "er" and "est" endings. Use "not" and "opposite" to discuss comparative concepts.	Objects and NALB	Will compare at least 3 pairs of objects. Will be asked to identify the comparative objects in 2 ways: (1) Point at "Which one is". (2) Describe when asked "Tell me about this one and this one." (big/bigger, feel soft)
Do a simple science experiment with water - liquid state, frozen state, steam/gas state.	Model "hot," "cold," "very cold," "hard," "move easy," "more hard" and "change" to describe the conditions.	NALB	Tell me what you need to do to make it hard. (cold) Tell me what you need to do to make steam. (hot) Accept: make hot, make cold, very hot, very cold
Complete worksheet.	None - Work independently with aide	Modified Worksheet - adjust to 5 questions with answers of 1 - 2 critical words. NALB at work station.	Use computer version of worksheet. Check worksheet and grade.

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

- 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)

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



NALB on Portable Frame



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

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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

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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!



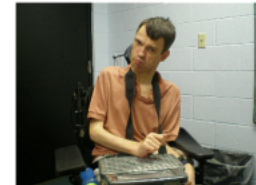
Cynthia (teacher): It helps me know what the student has learned. And it is so much easier to work with him!

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



Posted on YouTube – search for videos by gvantatenhove

- | | |
|---|--|
| <ul style="list-style-type: none">• It was time to eat.• I wait and wait.• No one there.• No one come.• I afraid no one here to help me eat.• I wait more.• He come and say to me you don't tell.• He bad and mean.• He go away.• I wait more. | <ul style="list-style-type: none">• Pronouns<ul style="list-style-type: none">– I, me, he, it• Verbs<ul style="list-style-type: none">– was, eat, wait, come, help, say, tell, go• Negation<ul style="list-style-type: none">– no, don't• Adverbs<ul style="list-style-type: none">– there, here, away• Adjectives<ul style="list-style-type: none">– afraid, more, bad, mean• Nouns<ul style="list-style-type: none">– time, one,• Little Words (det/conj)<ul style="list-style-type: none">– to, and |
|---|--|

Thank you!

Gail

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