

Where to start?
Examining the Language
Organization of Communication
Devices and Strategies to
Support Their Use

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Learning Outcomes

As a result of this presentation participants will

- Analyze various symbol representations and core vocabulary sets.
- Design an appropriate communication system to fit each individuals communication needs.
- Obtain strategies to teach the implementation and use of low-high tech communication systems.
- Identify strategies which can be used to support functional communication.

What's on your device?

Is this functional communication?



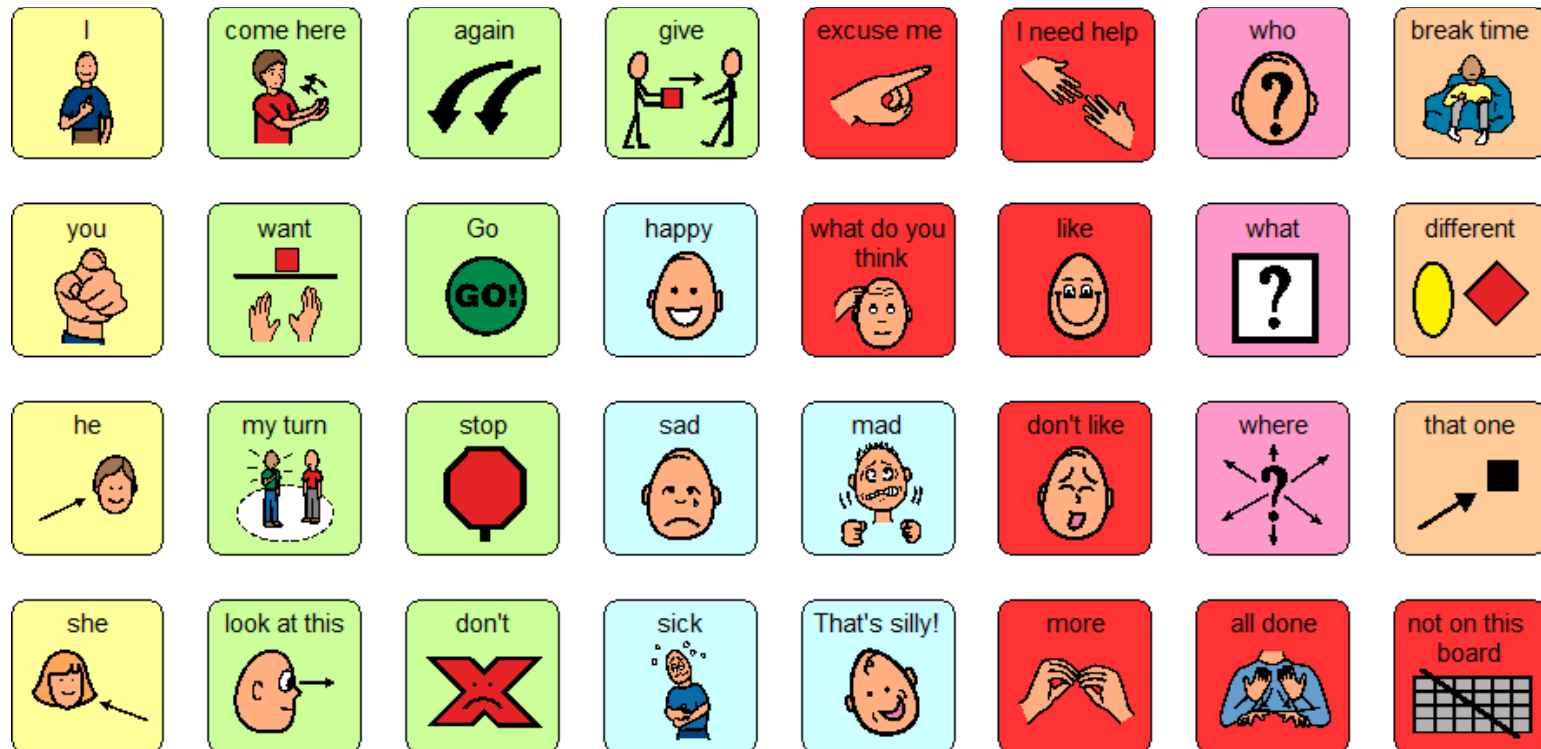
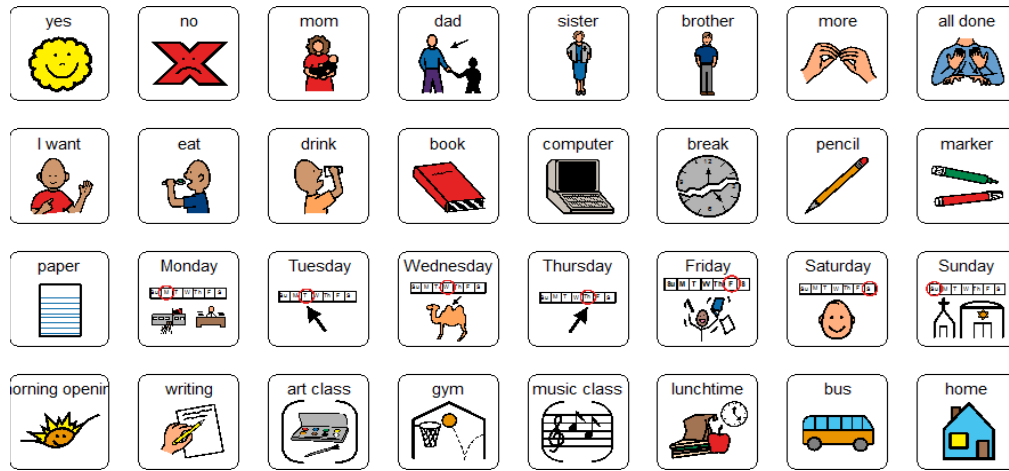
Can you.....

- Ask for help?
- Talk about what you like?
- Ask a question?

Communicative functions of language: (pragmatic, syntactic, semantic)

- Initiate
- Terminate
- Comment
- Request
- Reject
- Ask questions
- Provide information
- Interject
- Direct the actions of others
- Express Feelings

Which would you rather use to communicate?



Foundation

- Core vocabulary – words/messages with universal utility across individuals and environments. Small in size and do not change across environments or individuals.
- Fringe vocabulary– words/messages specific to an individual AAC user's situation, interests, and needs.

CORE LANGUAGE EXPLANATION:

- As natural speakers, we communicate over 80% of what we say using CORE LANGUAGE, a set of 300 words we combine in new ways each time we speak. Without access to these words, (words like stop, go, more, like, etc.,) we could not express what is on our minds.
- <http://praacticalaac.org/practical/how-i-do-it-encouraging-aac-implementation/>
- <http://www.vantatenhove.com/papers.shtml>

- Let's use the example of **Summer** as an example of selecting core vs. fringe words.

Fringe	Core
Vacation	Go far, break, new, different place
Lemonade	Thirsty, drink, different color
Sunburn	Hot, red, on me, hurt
Beach	Water, hot, play, fun

- We are providing curricular content while also empowering the user with words that can be combined in novel ways to express various messages.

Research: Gail Van Tatenhove

- Studied and focused on the implementation of a long-range plan and the development of a set of high frequency, re-useable core vocabulary for use in the classroom.
- Words were selected based on frequency of use, normal language development, and environmental language sources.

The Pixon™ Project Kit is an early language development program built around the use of low-tech manual communication boards. The program provides materials and strategies needed to support effective early AAC intervention.

I- 	it 	who 	what 	do 	want 	need 	have 	when 	again 	morning 	how 	more 	all done 	all gone 	stuff 
me-myself 	my-mine 	name 	am-is-are 	can 	like 	feel 	know 	before 	after 	afternoon 	different 	busy 	bored 	all 	thing 
you-your 	person 	friend 	ask 	help 	stop 	go 	come 	now 	later 	night 	sick 	hurt 	tired 	some 	this 
boy-man 	brother 	he-him-his 	turn 	try 	make 	work 	put 	yesterday 	today 	tomorrow 	good 	bad 	silly 	dumb 	that 
girl-woman 	sister 	she-her(s) 	take 	get 	give 	change 	hold 	where 	away 	why 	big 	medium 	little 	nice 	fun 
family 	mom 	dad 	eat 	drink 	sleep 	dress 	wash 	here 	there 	because 	hungry 	thirsty 	hot 	cold 	question 
baby 	grandmother 	grandfather 	say-tell 	talk-call 	hear-listen 	look-see watch 	find 	in 	out 	and 	fast 	slow 	hard 	soft 	idea 
teacher 	class 	children 	live 	sit 	walk 	ride 	buy 	on 	off 	home 	favorite 	full 	right 	easy 	place 
aide 	SLP 	bus driver 	read 	write 	count 	color 	think 	up 	down 	school 	mean 	stinky 	scary 	afraid 	time 
pet 	body 	not 	love 	play 	share 	sing 	wait 	over 	under 	town 	happy 	sad 	confused 	mad 	problem 

Gail Van Tatenhove 150 Word Starter-Set Core Vocabulary

Van Tatenhove (2009)

afraid	come	get	hungry	new	ready	take	watch
after	confused	give	hurt	nice	ride	tell	way
afternoon	count	go	I	night	sad	that	we
again	different	good	in	not	say	there	wet
all	dirty	happy	it	now	see	they	what
all done	do	hard	later	off	share	thing	what
all gone/gone	don't	hard	listen	old	she	thirsty	when
am/is/are	down	have	look	on	sick	this	where
away	dress	he	lose	one	silly	tired	who
bad	drink	hear	loud	out	sing	today	why
before	dry	help	mad	over	sit	tomorrow	win
big-little	dumb	her	make	people	sleep	trouble	work
break	easy	here	me	place	slow	turn	write
busy	eat	hers	mean	play	smart	under	wrong
clean	empty	him	mine	pretty	soft	up	yesterd
cold	fast	his	more	problem	some	wait	ay
color	father	hot	morning	put	stand	walk	you
	feel	how	mother	question	stop	want	your
	friend		my	quiet	stuff	wash	
	full		myself	read			

Top words used by Toddlers

Banajee, M., DiCarlo, C., & Buras-Stricklin, S. (2003). Core Vocabulary Determination for Toddlers, *Augmentative and Alternative Communication*, 2, 67 – 73

- 1. all done/finished
- 2. go
- 3. help
- 4. here
- 5. I
- 6. in
- 7. is
- 8. it
- 9. mine
- 10. more
- 11. my
- 12. *no*
- 13. off
- 14. on
- 15. out
- 16. some
- 17. that
- 18. *the*
- 19. want
- 20. what
- 21. *yes/yeah*
- 22. you

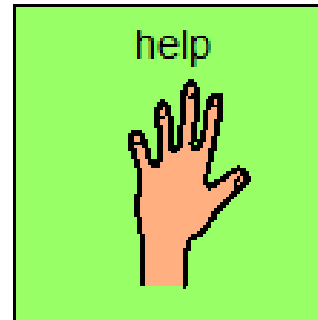
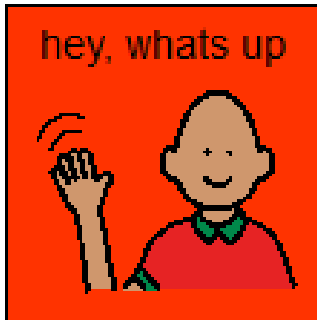
Phrases

- Preprogrammed phrases reduces the amount of time/energy needed for a device user to produce a given message.
- Beukelman compiled a list of phrases used by Preschoolers in the home and at school, many phrases included core vocabulary words and were repeated frequently.
- Its beneficial to include frequently repeated phrases when programming a communication device.
 - What are we going to do?
 - Where are you going?
 - Come here.
 - Don't do that.
 - I can do it.
 - I don't know.
 - I want to do it.
- Beukelman also found a series of commonly repeated phrases when taking an inventory of “small talk” with adults Age 20-30, 65-74, and 75-85.

Consider fringe and specific needs when choosing your vocabulary:

Specific area of need can include fringe vocabulary:

- working hard on potty training
- initiate or terminate communication
- social interaction
- reward system/working for



Vocabulary Research and Janice Light's Competencies.

Social Light, J. (1989) communicative competence

- Broad communication skills addressed by sociolinguistics.
 - discourse strategies
 - interactions
 - adjustments to context.
 - Maintaining a topic
 - transition to change topic
 - gaining someone's attention before giving information
 - indicate interest and/or understanding.
- Visual scenes or pre-programmed phrases
- Come here
 - I need help
 - Excuse me
 - Look at this
 - Hey what's up (George hip talker)
 - I want to hear more
 - What do you think?
 - *I like that
 - *I don't like that
 - Socially/age appropriate
 - Creates similar cause effect and more/all done.

Operational

Light, J. (1989) communicative competence

- The technical skills required to operate the communication system
 - skills to use the access method(s)
 - skills to operate specific device features
 - on/off switch
 - volume control
 - output mode selection

Strategic Light, J. (1989) communicative competence

Adapted strategies that are called into play when there is some breakdown in the communication process –

Asking for additional information, recognizing when the listener has not understood , and repeating/changing a message to clarify the error.

- Not on this board.
- I need a new word.
- I want to make a change.

Linguistic

Light, J. (1989) communicative competence

Knowledge of language or linguistic code.

- Receptive
 - Iconicity – the visual relationship between a symbol and its referent (how students perceive communication symbols)
- Expressive
 - Symbol set/system chosen
 - Ability to make new words (text/predictive spelling)

Symbols – Transparent and

Translucent

No littering

Bump ahead



Transparent

Translucent

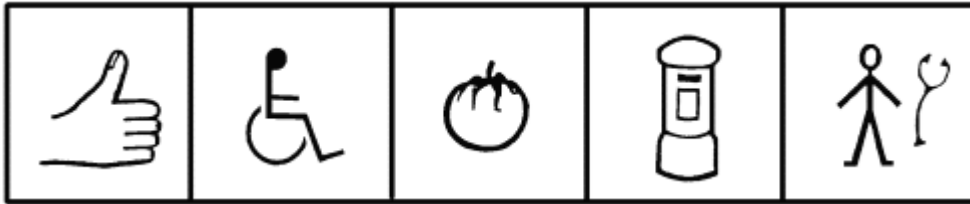
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Transparent -

Translucent

1 2 3

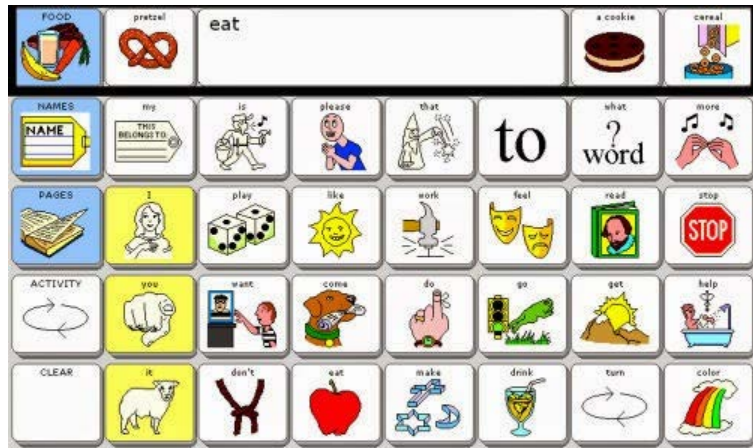
Research on Symbol Sets



- Mizuko (1987) investigated iconicity of three different symbol groups (PCS, Picsyms and Blissymbols) where PCS and Picsyms were found to be more iconic and easier to learn.
- Many studies of transparency note that pictures that appear to be iconic to adults are not necessarily iconic to children.
 - Drager and Light (2006) and Namy et al. (2004) research supports that iconicity is age bound.
 - The implications of these findings support the need for most communication symbols to be taught.

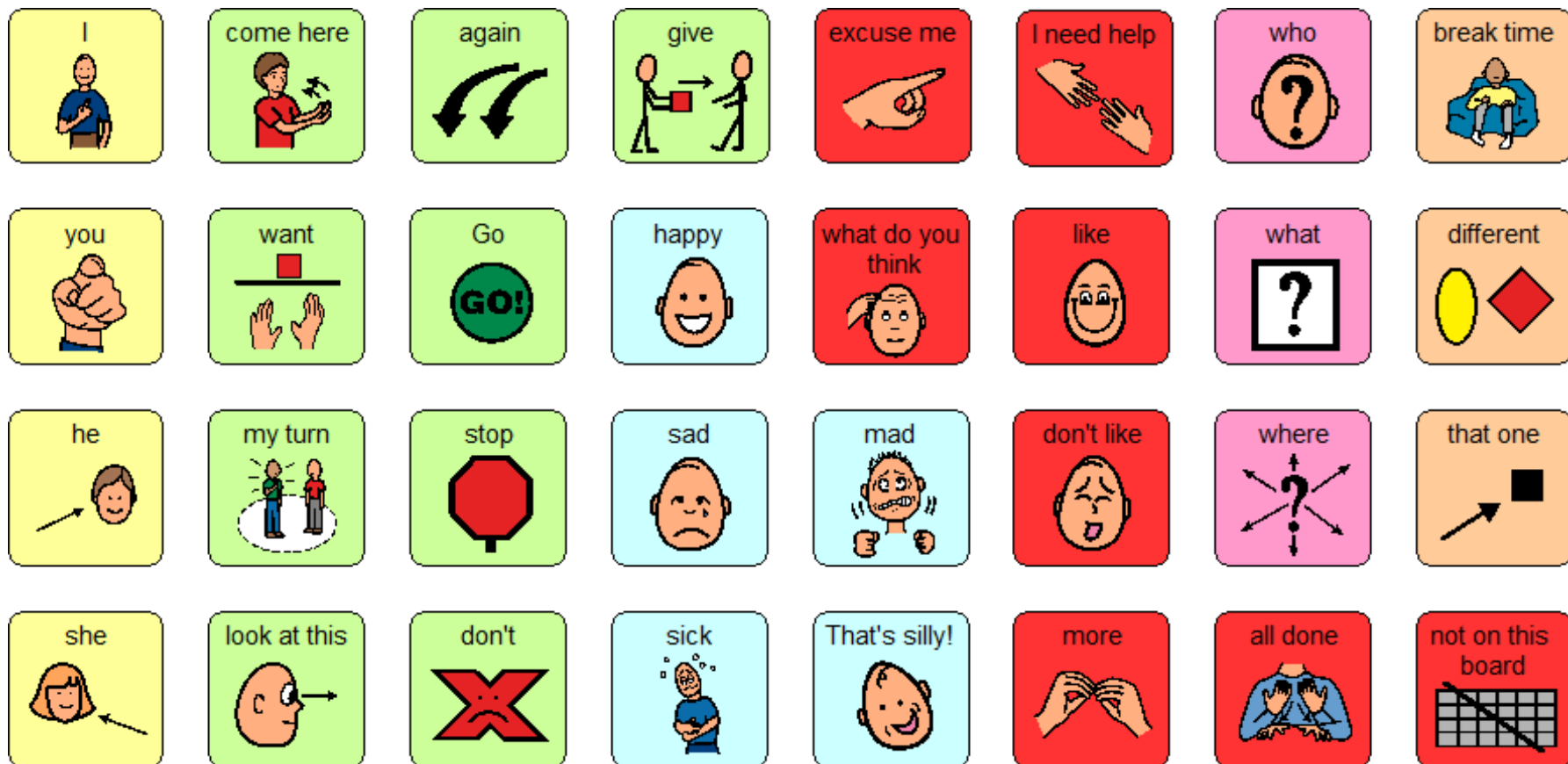
Application of research

- Iconicity research supports the need for communication symbols to be **directly taught** and **practiced**, both in **isolation and sequence**.



Vocabulary selection is the Foundation to increasing Communication

Core words, some powerful fringe vocabulary, a few pre programmed messages, necessary social comments and consider Janice Light....



Single Message SGD



- I'm here
- Good morning
- That's the one I want
- Go – Stop
- Terminate ALL
DONE, BREAK
- Repetitive line in a
book
- Hey what's up?
- I need help
- More
- My Turn
- By the door, saying "I
need to use the
bathroom"
- Order at a restaurant
- Tell parent "I love you"
- Directing peers that its
time for _____
- Giving a compliment to a
friend
- Play Red Light – Green
Light
- Participate in a political
campaign "Vote for _____"
- Cheer for favorite team
- Ask for help
- Individual letter sounds

Portion of ideas from Solomson,
B. www.ablenetinc.com
101+ ideas for using the BIGmack

Series of messages on one device.



- Teaches the skill of **RECIPROCITY**
- Knock Knock Joke
- Tell a story/event
- Link from home to school (Bridge)
- Read a book
- Read a recipe
- Report to the class
- Duck – Duck- Goose
- Sing a song
- Play notes in a song.
- Deliver morning announcements
- Pledge of Allegiance
- Poetry
- Counting – 1 :1 correspondence
- Link to switch toys- activate toy and talk
- Ask questions
- Request a series of favored activities (tickle, bounce)
- Say Hello to multiple people
- Announce players on a team as they come out
- Announce a fashion show
- Show and tell
- Yes
 - That's the one I want
 - Yeah
 - Write that down



2 Message device



- Like vs Don't Like
- I want vs Don't want
- Yes vs No
- More vs All Done
- Two choices, with pictures
- Poetry
 - Christmas is....
 - Thanksgiving is.....
- Two part directions
- First.....Then
- Ask question "What are you doing this weekend" then answer "I am going to a movie"

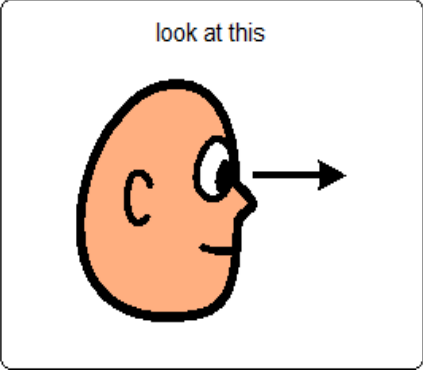
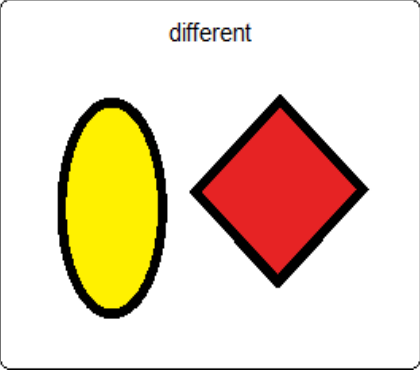
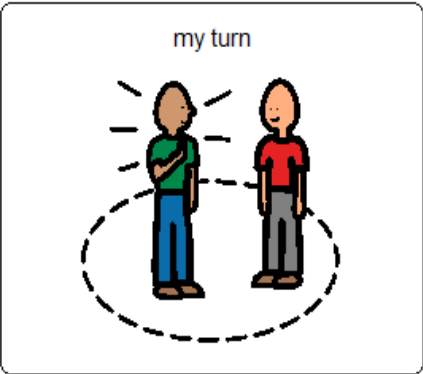
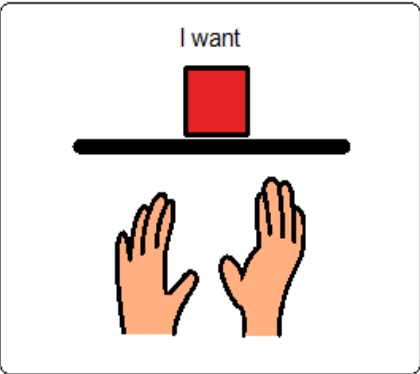
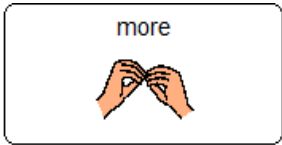


TwinTalk Device

4-8 cell device

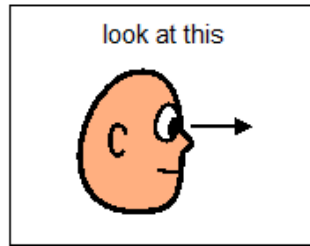
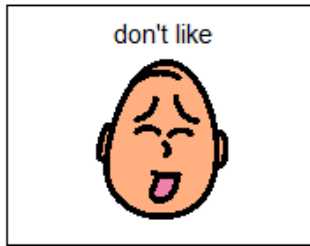
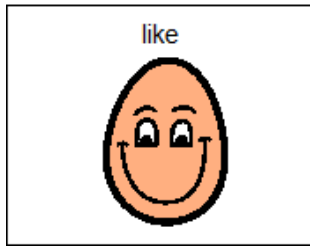
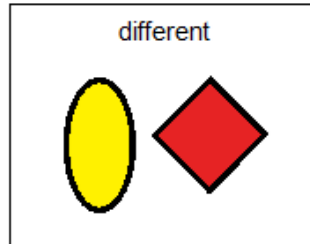
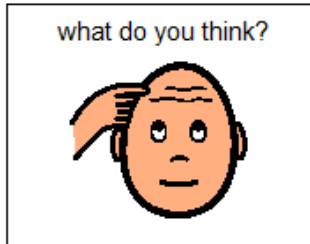
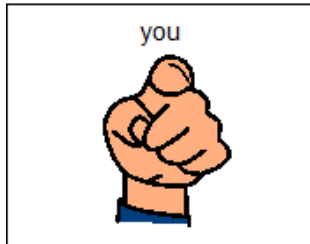
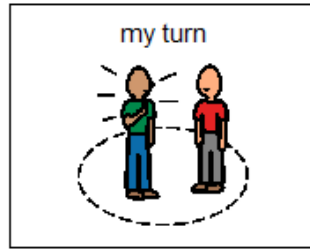
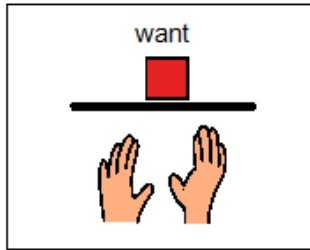
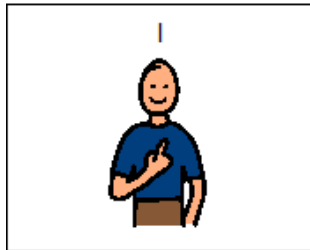


- Use words that they cannot communicate in another way
- Daily communication (CORE VOCABULARY)
 - Social comments
 - Directives
 - More vs all done
- Activity specific/Fringe Vocabulary (IN ADDITIONAL LEVELS)
 - Morning opening
 - Books
 - Letters/Numbers
 - Games
 - Science projects



Other options for last two cells:
I like – I don't like
Same –different
Good – bad

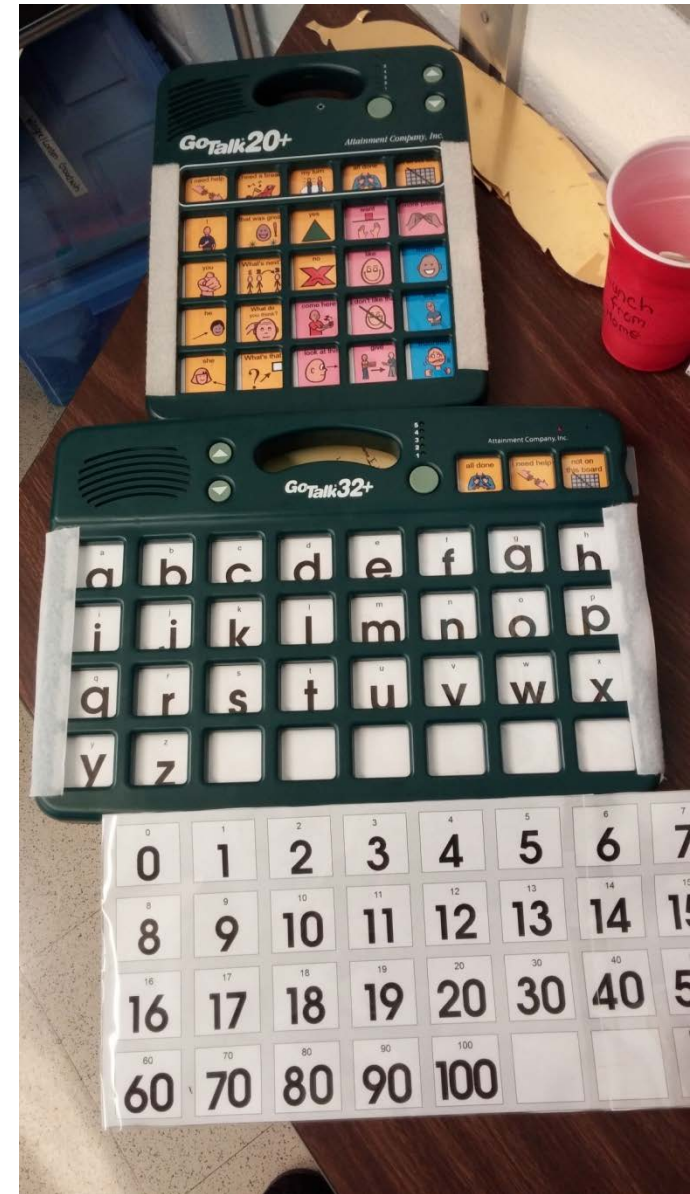
If student can indicate YES and NO, then don't waste the cell space.



Examples using Boardmaker –
if using AbleNet quicktakers use Symbol Overlay maker
(Resources) and your own pictures or clipart

32+

- Expand their Daily communication (CORE VOCABULARY)
 - Social comments
 - Directives
 - More vs all done
- Utilize Additional levels on communication device
 - learning tool for academics
 - Numbers, letters, sound blending, topical units, literacy.



Dynamic Display

- Dynamic Display devices consist of Core vocabulary, Fringe vocabulary, and Activity specific pages.
- Be sure to add/teach Strategic competencies (volume, ask to change a cell)
- Visual scenes
- Quick hits/Talk button/Social
 - Be sure student has quick access to a variety of communicative functions
 - Common phrases
 - My Turn
 - Excuse me
 - I need help

Final Considerations of Set Up

- Don't forget to color code 😊
 - Fitzgerald Key
 - Goossens, C., Crain, S., & Elder, P. (1992).
 - Dynavox
 - Pixons
 - Touch Chat
- Be sure to be consistent
 - Student
 - Classroom
 - School

Prep is done, Time to teach



Strategies to teach the use of Device

- 1. Model model model**
- 2. React and respond**
- 3. Create opportunities for
communication**
- 4. Make it Functional**
- 5. Know the device - use
their language**

Model - Aided Language Stimulation

- Communicate in the same “language” that the student uses – we talk to them in pictures, then they can talk to us in pictures
- Use the device and expand upon utterances.
- Model Model Model – no such thing as too much.
- Repetition from us, and from them –
 - LAMP – Language Acquisition Through Motor Planning

Aided Language Stimulation

Communication strategy, where a communication partner teaches symbol meaning and models language by combining his or her own verbal input with selection of vocabulary on the Augmentative and Alternative Communication (AAC) system.

Simultaneously select vocabulary on the AAC system and speak

How many words does a typically developing child from an average working-class family hear per hour?

1,251

(Hart & Risley, 1995)

How many words does a typically developing child from an average working-class family hear per YEAR?

6,000,000

(Hart & Risley, 1995)

How many symbols does a student with a disability see other people use to communicate in one year?



often... ZERO

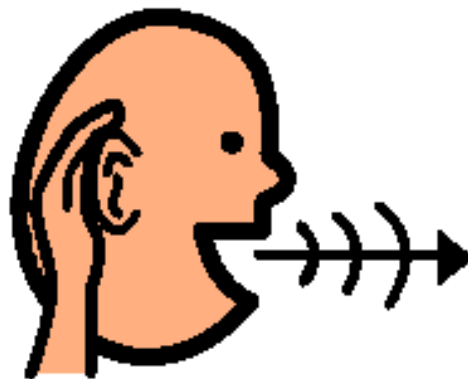
(Mirenda, 2013)

Aided Language Stimulation

Language Input

Output

Spoken Language



Spoken Language



Spoken Language



Aided Language
(symbols)



React and Respond

- Must acknowledge the communication -
 - student tells you to stop, then stop
 - or acknowledge the request, but explain why you can't
- Respond to every communication attempt
 - Teaches that the talker is communication
 - Student learns the meaning of the vocabulary by the adult's reaction
 - Learn the appropriate language for that situation.
- Respond and keep responding

React and Respond

- **Adults need to immediately grant the request even if it is not a desired item, object, or action.**
 - Initially, when learners make a request, the request should always be granted (communication cause and effect)
 - It may be necessary to remove or hide pictures
 - inappropriate at certain times.
 - Cognitively overwhelming
 - If a child initiates a different kind of communicative **function**, teachers/practitioners and caregivers should respond to the learner's communication as if it were intentional and purposeful, even if it is suspected that the communication was not intentional.

Franzone, E., & Collet-Klingenberg, L. (2010).

Create opportunities to use their language

Barriers

- Gentle obstruction – blocking the way
- Sabotage – create opportunity for communication, but don't push to frustration.

Question

- Ask questions you know they can answer using the words on their device.

Choice

- Give learners choices during routines/activities and follow their lead when appropriate communication is used
- It may be more important to have students independently make choices and control their environments rather than participating in their regular routines

Surprising Novel

- Be dynamic – increases engagement, do something surprising or out of character.

Make it Functional

Motivating and Functional

- Motivating – must have a reason to communicate and receive a positive response.
 - Sometimes morning opening “Tuesday” isn’t the place to start.
 - Make it communication - not necessarily academic words.
- Functional – focus on language that is powerful and will provide a quick “cause effect” response
- If learners become frustrated it may be best to use **cues** or **modeling** to correct the error to help them secure the desired item

After Functional.....

Sometimes it's not a choice!

- **After the learner fluently uses the speech generating device (SGD), teachers/practitioners and caregivers can introduce the concept that sometimes a choice is no longer an option.**
- As learners become more familiar with the SGD, it may be appropriate, even necessary, to say, "We're all done with _____. Make another choice." Or to encourage interactions with a variety of activities, a statement, such as, "It is time to select another choice" may be used. At the same time, remember that the overall goal is communication.

Franzone, E., & Collet-Klingenberg, L. (2010).

Know the device

- LAMP app = Accent from PRC
- TouchChat app = Nova Chat from Saltillo
- Compass app = Tobii Dynavox
- Snap & Core First = Indi or I110 - Tobii Dynavox
- PODD - Book or Tobii Dynavox device
- Proloquo2go – App
- QuickTalker Freestyle - Ablenet

APPs Galore!

Jane Farrall's comprehensive list of available AAC apps...
with more being created regularly!

http://www.janefarrall.com/aac_apps-lists/

Apps to Dedicated Devices

Practice and learn with the app as long as needed then move to a dedicated device funded through insurance.

Touch Chat app = NovaChat from Saltillo



LAMP App= Accent from PRC



QuickTalker Freestyle

- Semantic Compaction
- Researched Unity Language System – minspeak
- Fitzgerald Key color codin
- 3500 words - Accent 7,000

LAMP

Words for Life

Language Acquisition through
Motor Planning
(Prentke Romich Company)



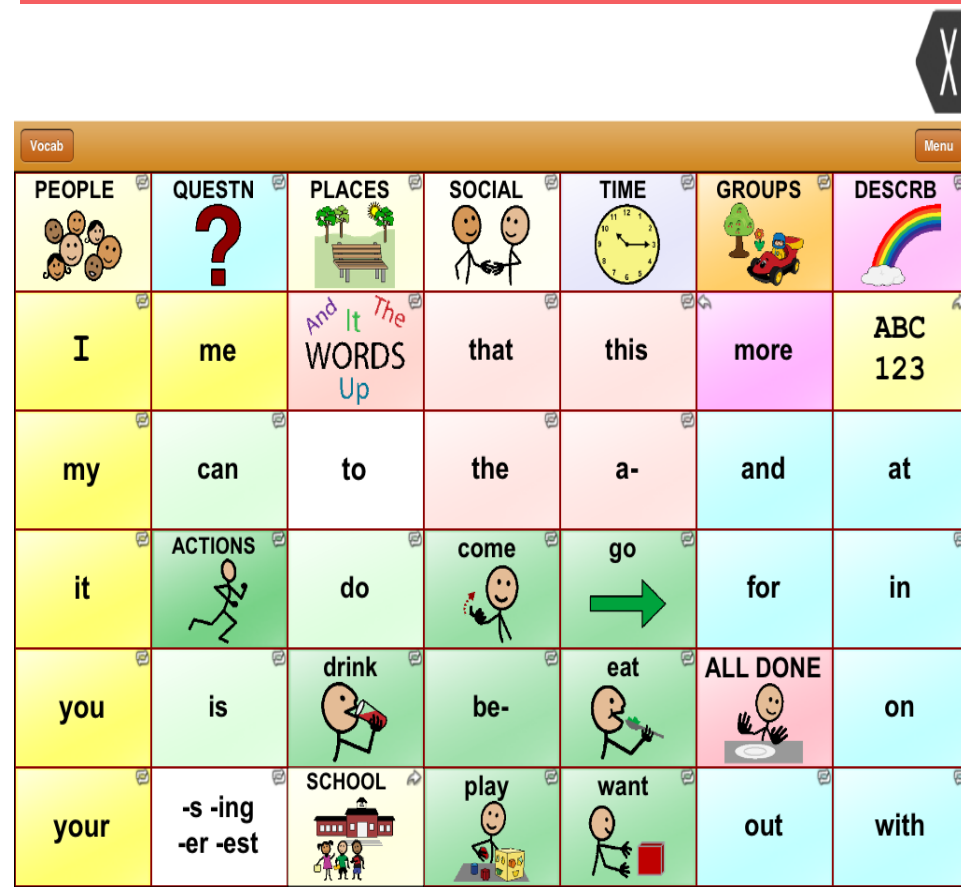
- Dynamic Display
- Word/Phrase prediction
- Symbolstix
- Core and Fringe setup
- Saltillo NovaChat

TouchChat

Includes VocabPC, MultiChat 15, My Quickchat, My Core, Spelling and 4 Basic Page Sets

* WordPower 20, 24, 30, 42, 48, 48 Español, 60 Espanol, 80 & 108

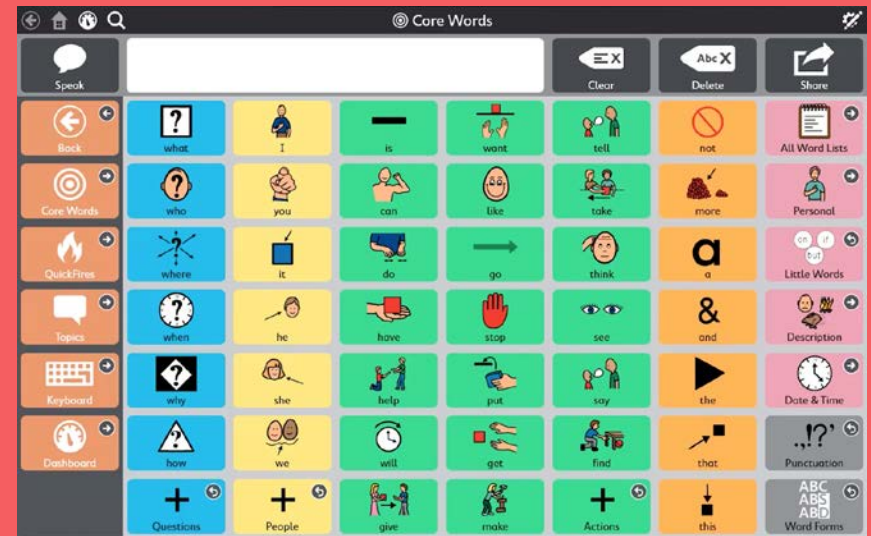
Vocabularies(with or without keyboard)



Snap & Core First

Can grow with the student
Core vocabulary and context dependent
social language.

- Tobii Dynavox - INDI or I110
- Core and Fringe Setup - Context dependent
- popular search feature



Teach the use of the device and the function of language

Important communication development milestones to consider:

Age	Sample Milestones	
12 months	Uses a variety of nonverbal means to communicate	Uses requests, comments, and other basic communicative functions
24 months	Combines gestures and words to communicate	Asks questions, expresses feelings, uses prosocial functions
2-3 years	Maintains a simple conversation exchange with adults	Comments and describes ongoing events
4-5 years	Maintains a simple conversation with peers	Knows how to respond to other's feelings during interactions
6+ years	Adjusts conversation according to the listener's needs	Takes into account the listeners' perspective to maintain a reciprocal conversation

(Quill, 2000, p. 46)

Added bonus.....

- Learners' **verbalizations** may increase as they use **speech generating device (SGD)** (Ganz et al., 2012)

Research and clinical experience show that the use of AAC with children does not block the development of speech. Quite the contrary, the use of alternative or augmentative communication often facilitates the development of speech for children who will be able to develop speech. AAC is now used successfully with very young children who are at risk.

- -ISAAC, 2015



AAC BOOT CAMP



Getting AAC Users COMMUNICATING

regardless of AAC system used (no tech, low tech, high tech) or skill level...



DON'T do this.....

- DON'T** expect a user to know how to communicate w/o direct models & instruction
- DON'T** do ALL the talking
- DON'T** overprompt
- DON'T** teach ONLY requesting
- DON'T** re-prompt too quickly
- DON'T** provide ONLY nouns
- DON'T** focus on vocabulary that won't be functional/used tomorrow
- DON'T** remove the device
- DON'T** move symbols
- DON'T** stop all "babbling" (exploring, button pressing)
- DON'T** keep the AAC system in their desk, cubbie, or backpack
- DON'T** expect sentences right away



DO this.....

- ✓ **MODEL MODEL MODEL**
model expected communication behaviors BEFORE expecting to see those behaviors from the user
- ✓ **PRESUME COMPETENCE**
- ✓ **FOLLOW** prompt hierarchy
- ✓ **TEACH** language functions
including directing, commenting, requesting assistance, etc...
- ✓ **WAIT** 10-20 sec. (w/an expectant look) before re-prompting!
Count in your head!! 123
- ✓ **PROVIDE CORE WORDS**
including verbs & describing words (in addition to nouns)
- ✓ **COLOR CODE** parts of speech
- ✓ **KEEP** icon placement constant
keep repeated icons in the same location on each page/screen
- ✓ **ALLOW** user time to explore and learn the system
- ✓ **MAKE** AAC available at all times
- ✓ **PROVIDE** Aided Language Input
- ✓ **ASK** open-ended questions

References

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