

AUGMENTATIVE ALTERNATIVE COMMUNICATION DEVICES

What are They and how to Use Them



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Learning Objectives

As a result of attending this session, the participant will be able to...

1. Identify several specific communication systems that can be used to communicate with non-verbal clients
2. Define direct selection, scanning, and encoding techniques used to communicate with non-verbal clients
3. Describe how symbol systems, language boards and speech generating devices are used to allow persons who are non-verbal to effectively communicate with others

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Session Outline

FIRST HALF

- Introductions
- Brief introduction of communication systems
- Establishing Yes/No
- Low and high tech devices
- Language boards/symbol systems
- Direct selection, Scanning, Encoding techniques

SECOND HALF

- Practice using apps
- What to consider when creating/using AAC's
- Challenges for parents and therapists
- Myths about AAC devices
- Practice using devices
- Review & Questions

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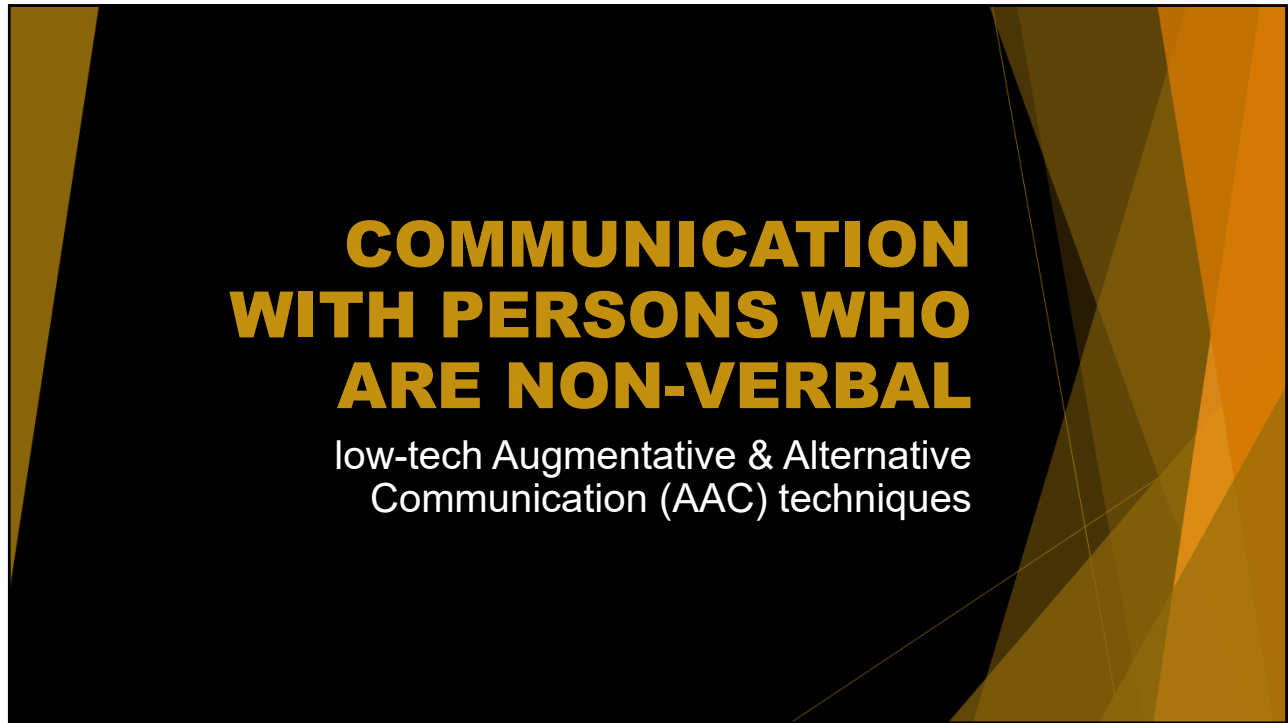
Hello Everyone by Peggy Farlow

Hello everyone on this [Thursday]
It's time for us to start.
I'm glad you are here on this [Thursday]
I mean it from my heart.
Hello to [], Hello (response) Hello
Hello to [], Hello (response) Hello
Hello to [], Hello (response) Hello
Hello to everyone. Hello (response) Hello

**Be prepared to
give a "Hello"
response non-
verbally**

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Yes – No – I don't know signals

- In order to start the communication process, there must be a developed method to indicate *yes*, *no* and *I don't know*.
- It is essential to establish consistent communication signals in order to facilitate future communication

ASL signs

		
yes	no	I don't know

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Developing *Yes – No – I don't know* signals

Find what signals the person is able to use, then establish a signal for each response

Examples

- Glancing up for *yes*, looking to the side for *no* and dropping the head for *I don't know*.
- Looking at right arm of wheelchair for *yes*, left arm of wheelchair for *no* and closing eyes for *I don't know*
- Tapping the desk once for *yes*, twice for *no* and a flat palm for *I don't know*
- Extending arm for *yes*, drawing arm in for *no* and palm toward abdomen for *I don't know*

IMPORTANT:

As the person signals a response, the receiver voices the response to clarify their understanding

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Yes/No/I Don't Know by Peggy Farlow

1. When you ask me what I want, I know what to say.
If it's something that I like, this is what I say.
I say "Yes, yes, yes - Yes, yes, yes."
"Yes, yes, yes – Yes, yes, yes."

2. When you ask me what I want, I know what to say.
If it's something I don't like, this is what I say.
I say "No, no, no – No, no, no."
"No, no, no – No, no, no."

3. When you ask me what I want and I don't really know.
If I'm not sure what I think, this is what I say.
I say "*I don't know, I don't know, I don't know – I don't know, I don't know, I don't know.*"
"*I don't know, I don't know, I don't know – I don't know, I don't know, I don't know.*"

**This is a
song to
practice
yes/no/
don't know
responses
in order to
become
more
consistent**

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Yes/No/I Don't Know

4. When you ask me a question, watch close for what I say.
Will it be a yes or no? (*I don't know.*) Now tell me what I say.

I say " _ _ _ _ _ _ _ _ _ _ ."
" _ _ _ _ _ _ _ _ _ _ ."

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Techniques to Communicate with Non-Verbal Clients

- Gestures, American Sign Language (ASL) hand signs and other hand signals
- Low tech communication aides
- High tech communication aides

The success of all communication systems depends on the willingness of the receiver to take time to interact with the non-verbal person.

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Introduction to Low tech devices

- Use of symbol systems
 - Graphic pictures
 - Text
- Use of language boards
 - Permanent or changeable boards
 - Beginning, intermediate, and advanced boards

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Introduction to High tech devices

- What is high tech?
- Types of displays
- *Synthesized speech- computerized speech
- *Siri on I-phones is Synthesized speech
- You can understand what it is saying but it can have interesting phrasing or pronunciation
- *Digitized speech is recorded
- *Example is the BigMac

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Aided communication systems

WHAT IS IT? *Aided communication* incorporates devices that are external to the individuals who use them

- involves the use of symbols (photographs, drawings, letters or words)
- to be functional, the symbols must be easily understood by both familiar and unfamiliar communication partners

WHY USE IT? The use of communication systems have positive side effects for the client such as

- decreased rates of problem behaviors
- increased rates of social interaction
- development of independence skills

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Graphic symbols for communication

- Use of **graphic symbols** can be an effective way of communicating for people with little to no functional speech
- **Learning to communicate** functionally through the use of graphic symbols is an **essential goal** for many non-verbal people



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Non-Verbal Communication Systems

The methods introduced in this presentation will include

- symbol systems
- language boards
- low-tech communication devices
- high-tech communication devices

A. Direct selection technique (*directly select the desired symbol*)

B. Scanning technique (*indirectly select the desired symbol*)

C. Encoding technique (*use multiple signals to indirectly select the desired symbol*)

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Considerations for using Direct Selection Technique

The client must have the following abilities...

1. **selective attention** - ability to attend to visual stimuli and choose a particular graphic symbol from an array with graphic symbols
2. **ability to indicate a response** - response must be accurate and consistent

- The act of selecting a symbol through direct selection will require additional time if individuals have reduced motor abilities.
- The downfall of direct selection is that it requires fine motor control. For this reason, indirect selection methods, such as scanning have been developed.

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Direct Selection Technique (one step process)

- Individuals point to graphic symbols by means of a finger, head pointer, wireless mouse, light beam, or eye gaze
- The output message is directly indicated by the message sender
- This technique is the most straightforward & cognitively simple approach to use



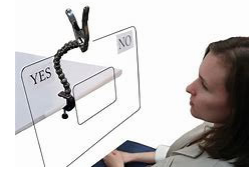
pointing



head pointer



light beam



eye gaze

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Low-tech direct selection devices

- Big Mac (\$135)



- GoTalk 4 (\$170)



- GoTalk Button (\$15)



Goodbye Song example

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Direct Selection – Beginning Language Boards

- Should include pictures with words
 - as the communicator points to or indicates their picture choice, ***the receiver says the word out loud***
- Should include pictures of things and activities occurring in the person's environment
- The language board should also allow the communicator to convey both positive and negative feelings





Beginning language boards are useful in communicating concrete concepts



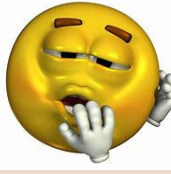

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How are you feeling today?

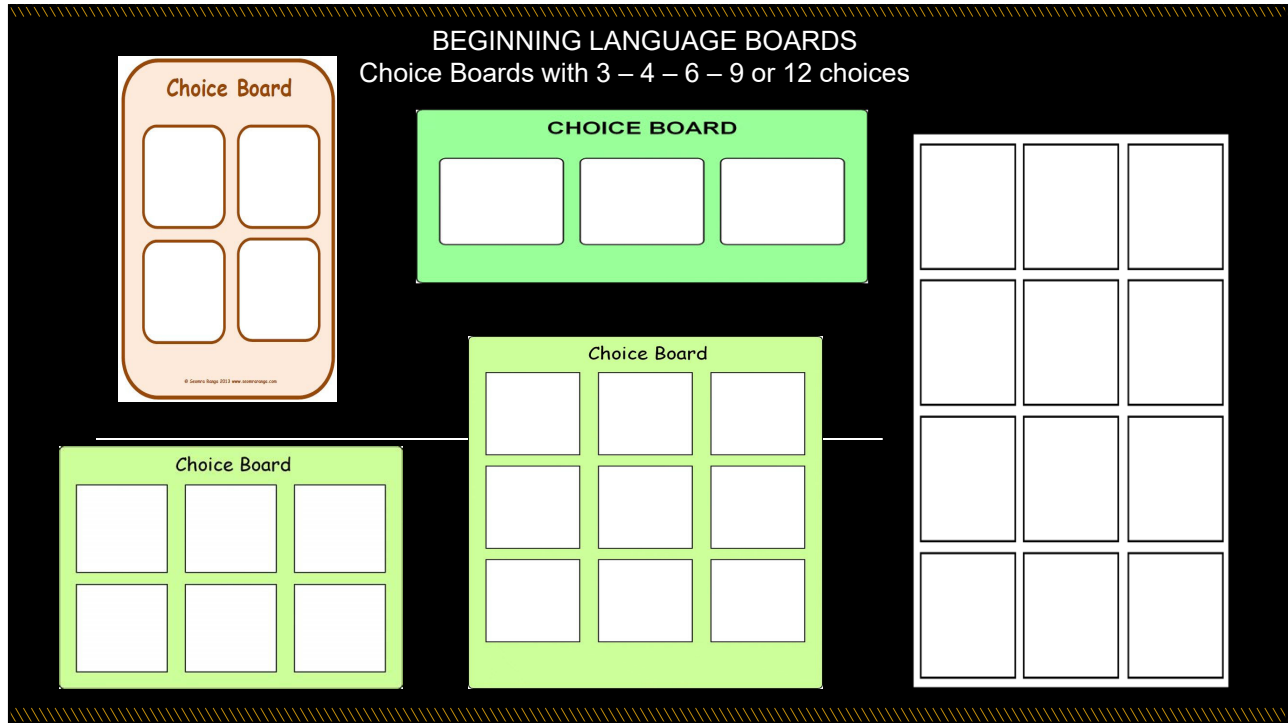
Where do you want to eat lunch?

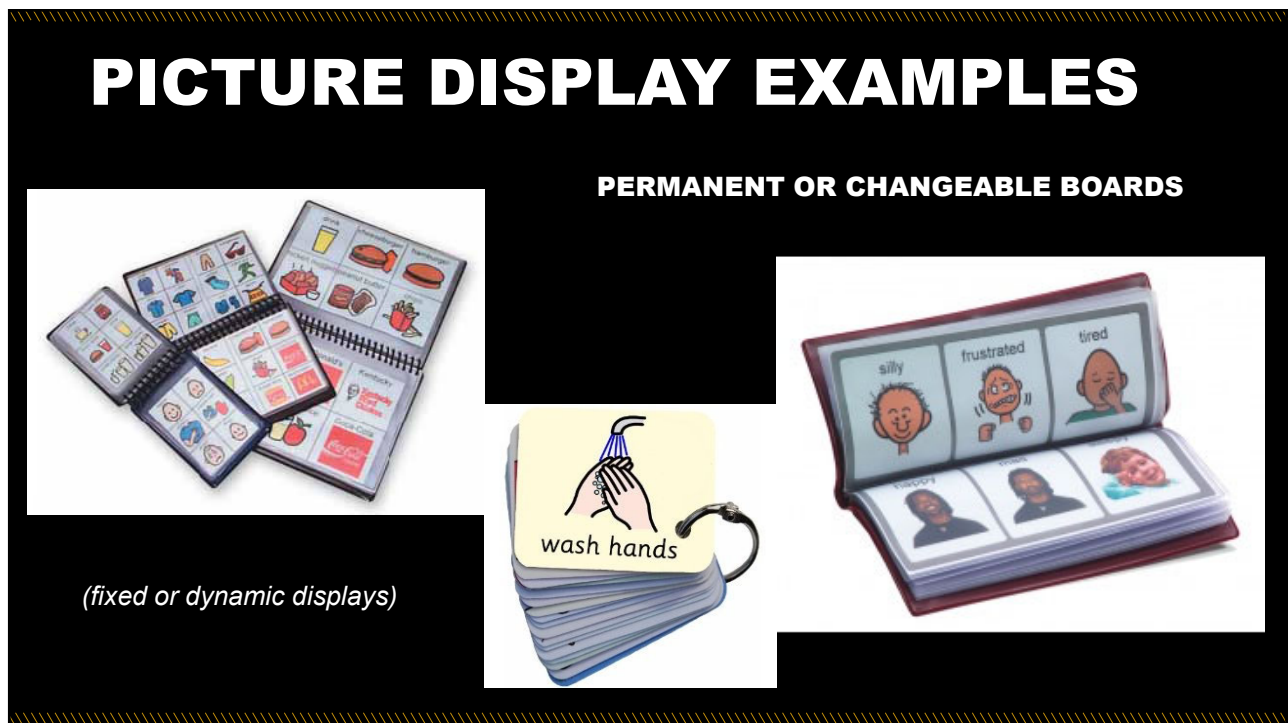
	
	

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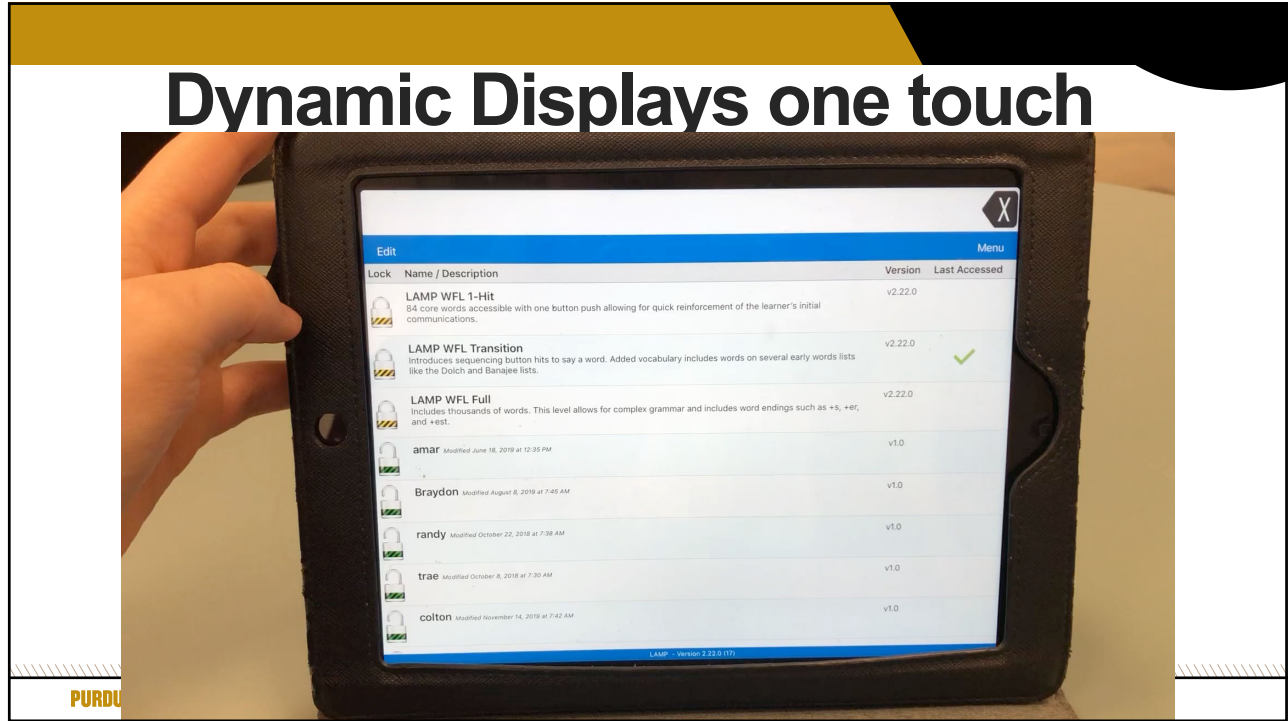
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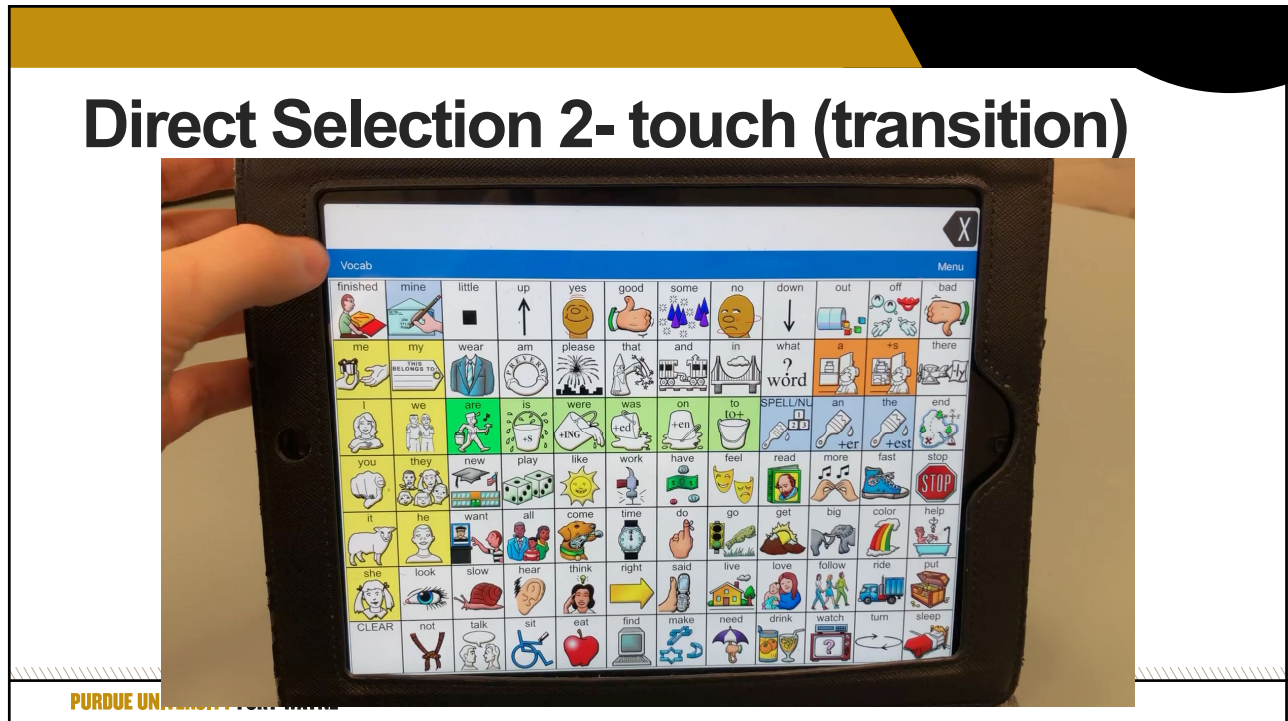
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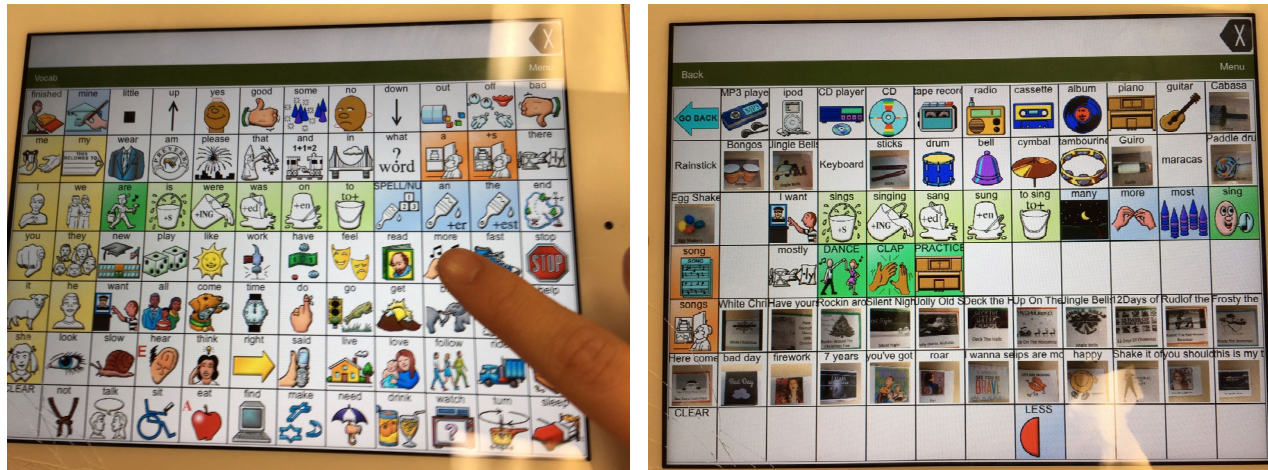


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Direct selection advanced boards



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Direct Selection

- You can have one page or several pages deep
- The amount of time you must hold the button can be altered
- You can add buttons and pages as long as once they are there, they stay

DO NOT MOVE BUTTONS!

- Motor planning will be altered if you do. Do not erase buttons. You can expand the board, if needed
- This should all be done by an SLP, if possible
- Many AAC users will go back to the home page before looking for another

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Intermediate/Advanced Language Boards

- Add more words and choices
- May include colors and numbers
- Uses the alphabet
- Begins to use more words and fade out pictures

*Intermediate language boards allow for more expressive communication
Advanced language boards help to communicate more abstract concepts*

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Alphabet Board Kirklees COUNCIL

No **Yes**

Would you write it down? End of word

It starts with.... I made a mistake. I'll start again.

I'd like to ask you something Please get the other boards.

Do you understand? Thanks.

1 2 3 4 5 6 7 8 9 0

Q W E R T Y U I O P

A S D F G H J K L

Z X C V B N M ?

This is a communication tool to help people who cannot talk or who have language that is difficult to understand.
If you have any ideas on how we could improve this please fill in a comment sheet.

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Using only non-verbal signals, practice asking and answering one of the following questions.

1. What do you want to do next time we get a break?
2. What day will you be leaving the conference?
3. What client population do you work with?

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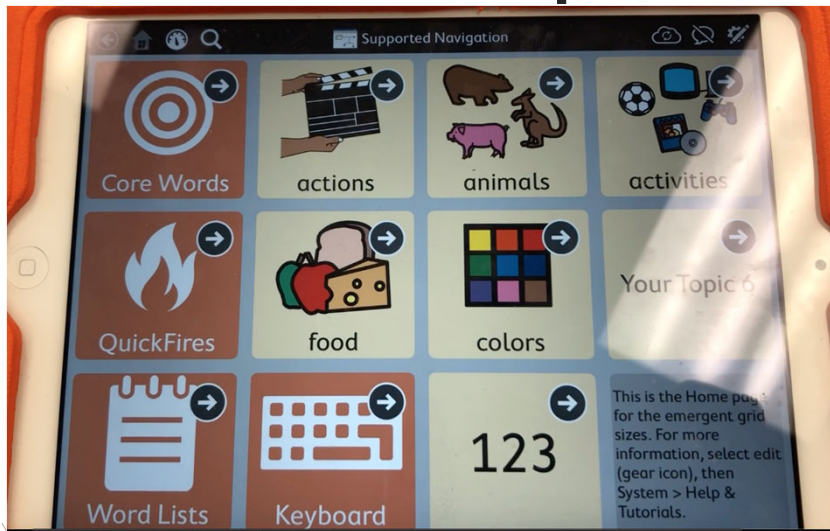
Scene based hot spot- 2+ touch



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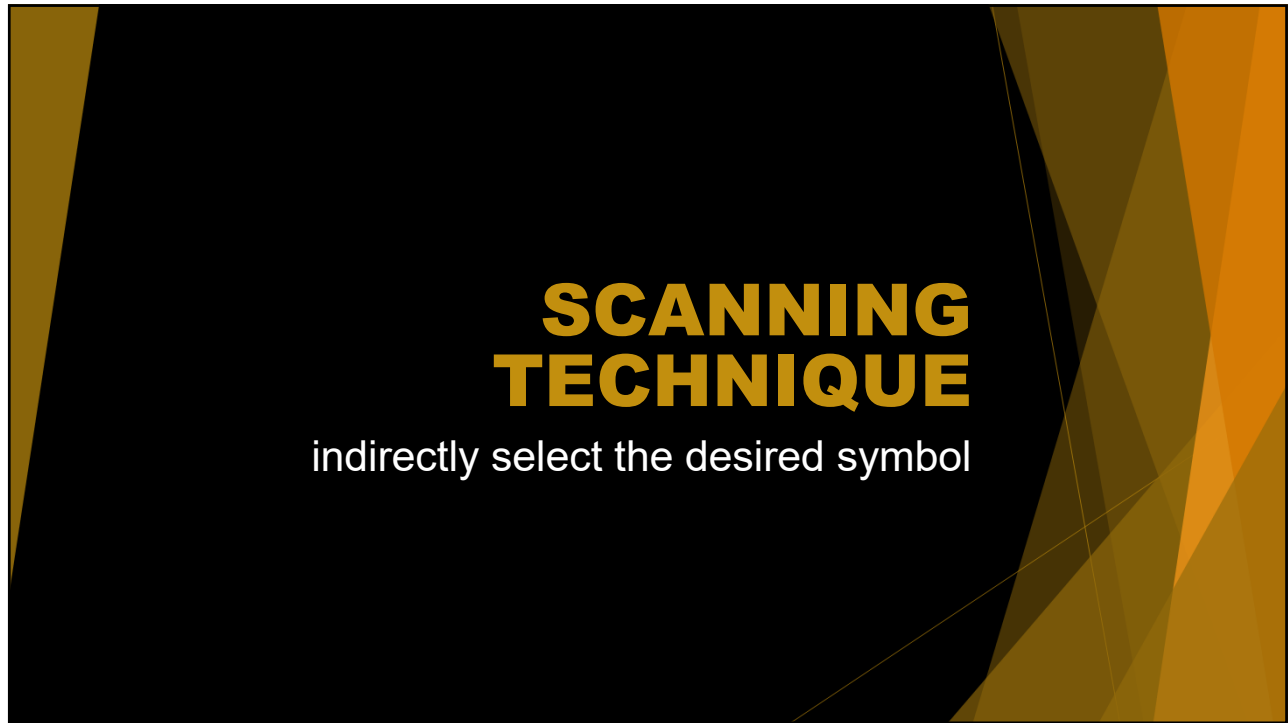
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High tech devices- Snap + Core first



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Low-tech Scanning Technique

(9 choices)

Three row (tic-tac-toe) formation

- For people who cannot point
- Indicate rows, then columns
 - Move head up or down to indicate the row
 - Move head side to side to indicate the column
- The person first indicates a choice by signaling the row (*with the receiver verbally identifying the choice*) and then asking the person to indicate which column using either side to side head movements or by responding to yes/no questions from the receiver.

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Scanning Technique – indirect selection

- A selection technique for individuals who cannot point to graphic symbols.
- Indirect selection requires an intermediate step to select an item from the selection set.
- Communication symbols are presented one at a time so the person can indicate his/her response when a specific symbol is reached.



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Scanning Technique (several step process)

- During scanning, individuals can reduce the number of motor movements required to access graphic symbols
 - **High Tech:** by stopping an electronic cursor that navigates auditorally, visually, or both, through a range of symbols on an aided communication system. The electronic cursor is usually stopped by switch activation
 - **Low Tech:** by indicating to the person receiving the message to stop on a specific category and then scanning that page for a specific response
- Scanning is a slow technique and requires the constant attention of the person receiving the message

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High Tech Scanning Devices

<https://www.bing.com/videos/search?q=scanning+AAC+device+video&qvt=scanning+AAC+device+video&view=detail&mid=2E504E47896E910B921C2E504E47896E910B921C&FORM=VRDGAR>





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High-Tech Dynamic Devices



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CATEGORY CHOICES

<p>People</p> 	<p>Places</p> 	<p style="font-size: 1.5em; margin: 0;">Name three things that you are thankful for</p> <p style="font-size: 1.2em; margin: 0;">(with linked pages)</p>
<p style="font-size: 1.2em; margin: 0;"><i>Things I'm Thankful for</i></p>		
<p>Foods</p> 	<p>Activities</p> 	




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PEOPLE

<p>Mom</p> 	<p>Dad</p> 	<p>Brother</p> 
<p>Sister</p> 	<p>Friend</p> 	<p>Teacher</p> 
<p>Therapist</p> 	<p>Neighbor</p> 	<p>Doctor</p> 

not on this page

(linked page for
*Things I'm
Thankful for*)



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Things I'm Thankful For by Hap Palmer

There are many *[things]** I am thankful for
I can find them near and far.

There are many *[things]** I am thankful for,
Let me tell you what they are.

I'm thankful for _____.

I'm thankful for _____.

I'm thankful for _____.

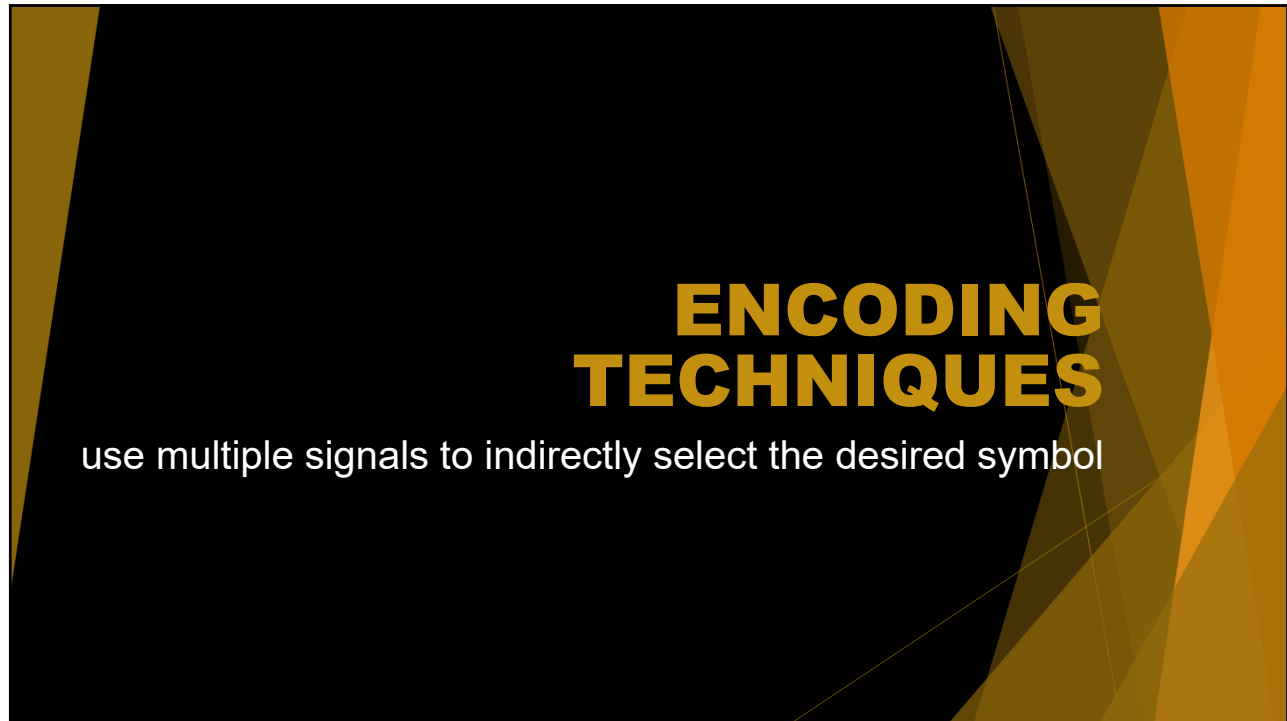
And I'm thankful to be me.

**[people, places, foods, activities, etc.]*

**Time to practice
using either the
head movement
or scanning
technique to
indicate a
response on a
three row grid
communication
device**

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Encoding Technique (multiple signals to indirectly select symbol)

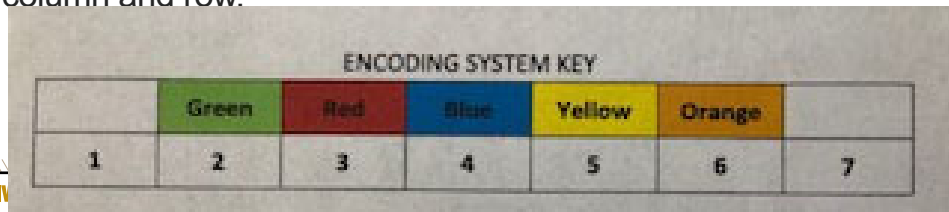
- Encoding is used to decrease selection time or to increase the number of items in the selection set
- For people who cannot point but have good cognitive and memorization skills
- The user gives multiple signals to specify the correct item from the users selection vocabulary
- Low tech encoding methods are generally implemented in two ways:
 1. **Memory-based encoding**
 2. **Chart-based encoding**

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Considerations for Encoding

- Encoding places demands on working memory
- An encoding system requires two movements. Columns are color coded and rows are numbered.
 - The person can look at the colored codes on the board to indicate the column and then at the number line to indicate the row of the desired communication element.
- As the vocabulary increases, additional language pages can be developed and labeled by content area and page number. The person can then indicate the page he wishes to be placed on the board and then indicate the column and row.



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Encoding Technique

- The desired category is indicated by a pattern or code of input signals.
- The code or pattern of communication must be memorized or referred to on a chart.
- Example
 - indicate column by color
 - Indicate row by number

PHRASES					
	GREETINGS	GOODBYES	QUESTIONS	COMMENTS	FEELINGS
1	Hi!	Goodbye.	What's your name?	I like that.	I'm feeling great.
2	Hey!	See you later!	Where do you live?	I don't like that.	I'm a little tired.
3	How have you been?	I hope to see you again soon.	Who do you live with?	I am not sure! I don't know.	I'm hungry.
4	What's up?	It was nice meeting you!	Where do you work?	I want to play something.	I'm feeling sick.
5	How are things?	It was great spending time with you!	When's your birthday?	Thank you for your help.	I'm feeling silly!
6	How's your day?	I'm really going to miss you.	What's your favorite type of music?	I need your help with something.	I'm feeling confused.
7	Good to see you.	I've got to go now.	Do you have any pets?	I need to take a break.	I'm feeling angry/frustrated.

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PHRASES					
	GREETINGS	GOODBYES	QUESTIONS	COMMENTS	FEELINGS
1	Hi!	Goodbye.	What's your name?	I like that.	I'm feeling great.
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7	Good to see you.	I've got to go now.	Do you have any pets?	I need to take a break.	I'm feeling angry/ frustrated.

example of encoding chart

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ETRAN – stands for *eye transfer*



The illustration shows a woman in a purple shirt holding up several communication boards. Each board contains a grid of letters and numbers. The boards are: ABC (123), DEF (456), GHI (789), PQR (STU), and VWX (YZ0). A man in a blue shirt is looking at the boards.

- A communication system which enables people to select items with their eyes.
- It is made of plexiglass and can be viewed by both the communicator and the receiver.
- The communicator indicates his message through a series of eye and head movements.

<https://www.youtube.com/watch?v=xatHPazOXw0>

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ETRAN example
using sheet
protectors

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using eye gaze
and encoded
communication
system

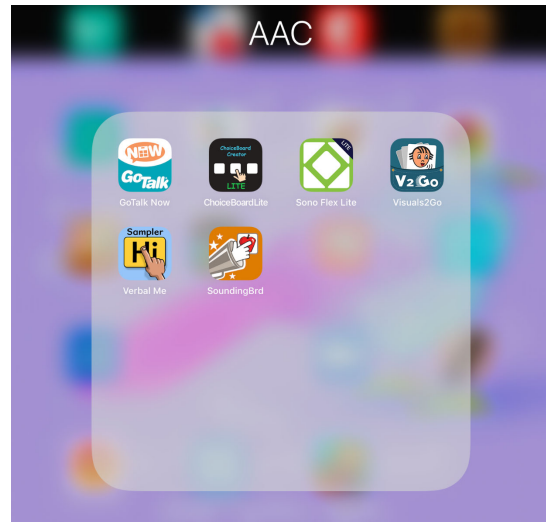
*Practice asking and
answering questions
with a peer.*

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Apps on Ipad

- GoTalk Now
- Sono Flex Lite
- Visuals2Go
- Bitsboard
- Sounding Board



Break

- Be back in 10 minutes
- Download apps that you want and we will explore them

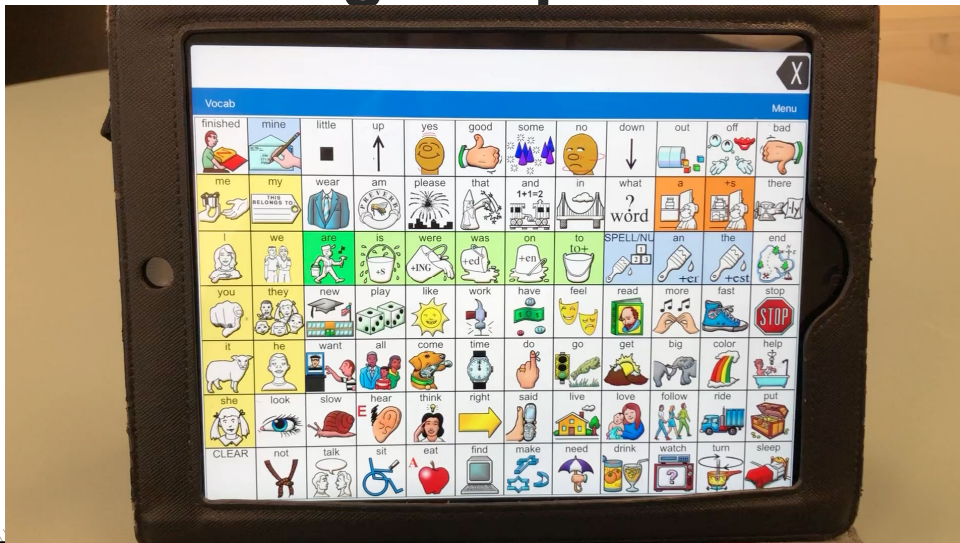
Go through apps

- Olaf on your head
 - Body parts
 - Room objects, each participant takes a picture

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How to recognize pictures- Lamp



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Lamp Vocab Books



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What do you notice?



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High Tech Devices

- 1/2 standing to get to the device
- No sauce button
- Training her to use it... we can understand pizza but not all words she says
- Fun fact mine and the interns phone ring through our speakers

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Hello

- It is important to remember that this may be their only mode of communication. When they say something don't discount that.
- I accept that you want "sick" to be in the song, for emotional skills I still want him to identify his real emotion.
- They have a right to choose their mode of communication. At home he will only sign and point. With me he refuses to sign and will only use his device/vocalizations/ pointing
- He is proficient with his AAC and it still takes a minute for him to find happy on a board he uses at least every week

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Goodbye



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Considerations when creating/Using AAC's

- Be familiar with the device
- Can they answer that question with the device?
- Model what you want them to do
- Keep the device with the user
- Is the client playing with the device okay??

• MadLibs

DrawBacks

- What words are on there
- Dog, classmates names, keyboard helps
- Proficient AAC users
- Story telling & "WH" questions

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Challenges for parents and users

- Do parents have an input?
- Core Vocabulary- Words that we use 80% of the time
- Linguistic Goals- are they realistic?
- Do we need goals?
- Be patient!
- Is it helpful to finish the individuals sentence?
- Do not take the device home to review it... how will they communicate?

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Challenges for parents

- Trained professionals
- Who helps the user learn their device?
- Where to find help with troubleshooting
- Training courses, manuals, phone support, manufactures websites
- Speech Language Pathologist's (SLP)
- An emphasis on developing speech? or communication?

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Myths about AAC's

- AAC is the last resort in speech-language interventions
- AAC hinders or stops further speech development
- Children must have a certain skill set to benefit
- SGD are only for children with intact cognition
- Children have to be a certain age to be able to benefit
- These programs are not specific for my child
- There is a representational hierarchy of symbols from objects to written words

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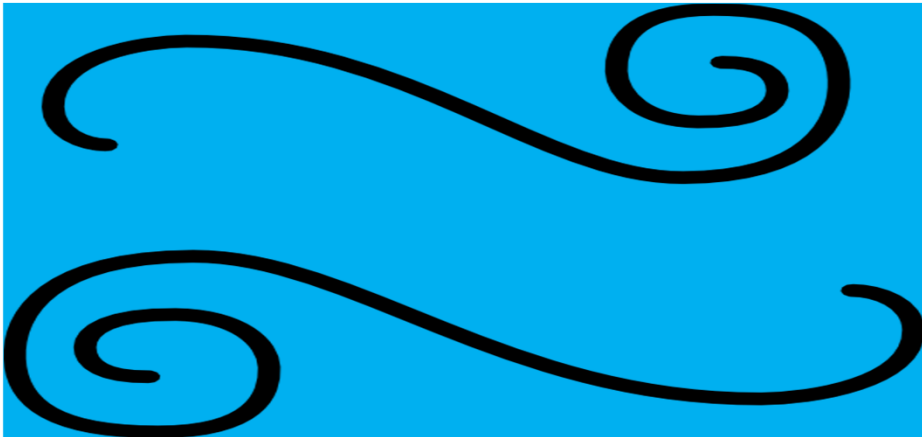
What does this represent?



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What does this represent?



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Things AAC users want us to know

- Ask consent each and every time you touch the user and/or device. Body language is a way of giving and removing consent. Watch people.
- User may switch communication methods regularly.
- There are people who use vocal oral speech who also use and need AAC full time part-time or intermittently and their use is just as valid
- Responding takes time and effort, I can't always reply fast, or word the response you want in the moment, you need to give me time

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Review low tech

- Assess clients selective attention and ability to indicate a response
- Establish consistent “yes/no” signals
- Use symbols that are easily identified by everyone
- Choose a language board that is the most appropriate for the client's abilities
- Verbally state the client's response you see
- Important to use same device on a consistent basis

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Review high tech

- Displays may be just 2 buttons or several pages deep
- Important to never move the buttons. It messes with the motor planning
- Work with the SLP
- This may be their main form of communication do not take the device with you, do not discount what they say.

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Review of Communication Techniques

Whether using low tech or high tech techniques

Determine most appropriate communication technique to use

- **Direct Selection** Technique
 - directly select the desired symbol
- **Scanning** Technique
 - indirectly select the desired symbol
- **Encoding** Technique
 - use multiple signals to indirectly select the desired symbol

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Firework song writing-Mad Libs

- | | |
|------------|-----------|
| 1. Thing | 8. Verb |
| 2. Verb | 9. Thing |
| 3. Feeling | 10. Thing |
| 4. Thing | 11. Verb |
| 5. Actions | 12. Thing |
| 6. Thing | 13. Thing |
| 7. Verb | 14. Verb |

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QUESTIONS?



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