CONTROL BIONICS

AAC SOLUTIONS

Proudly present —

“Meet Me Where I Am:

Ramps to Cognitive & Physical Access of High Tech AAC Following Acquired Brain Injury”

October 13th, 2021 @ 7:00 pm ET

AAC AWARENESS MONTH

OCTOBER 2021 | #AACaware21

GET OUT, SPEAK UP AND BREAK THROUGH THE SCREEN IN A RECOVERING WORLD

CONTROL BIONICS

AAC SOLUTIONS

Meet Me Where I Am:

Ramps to Cognitive & Physical Access of High Tech AAC Following Acquired Brain Injury

Presented by Jill Adlin, MA, CCC-SLP

Overview

Quick review of brain injury

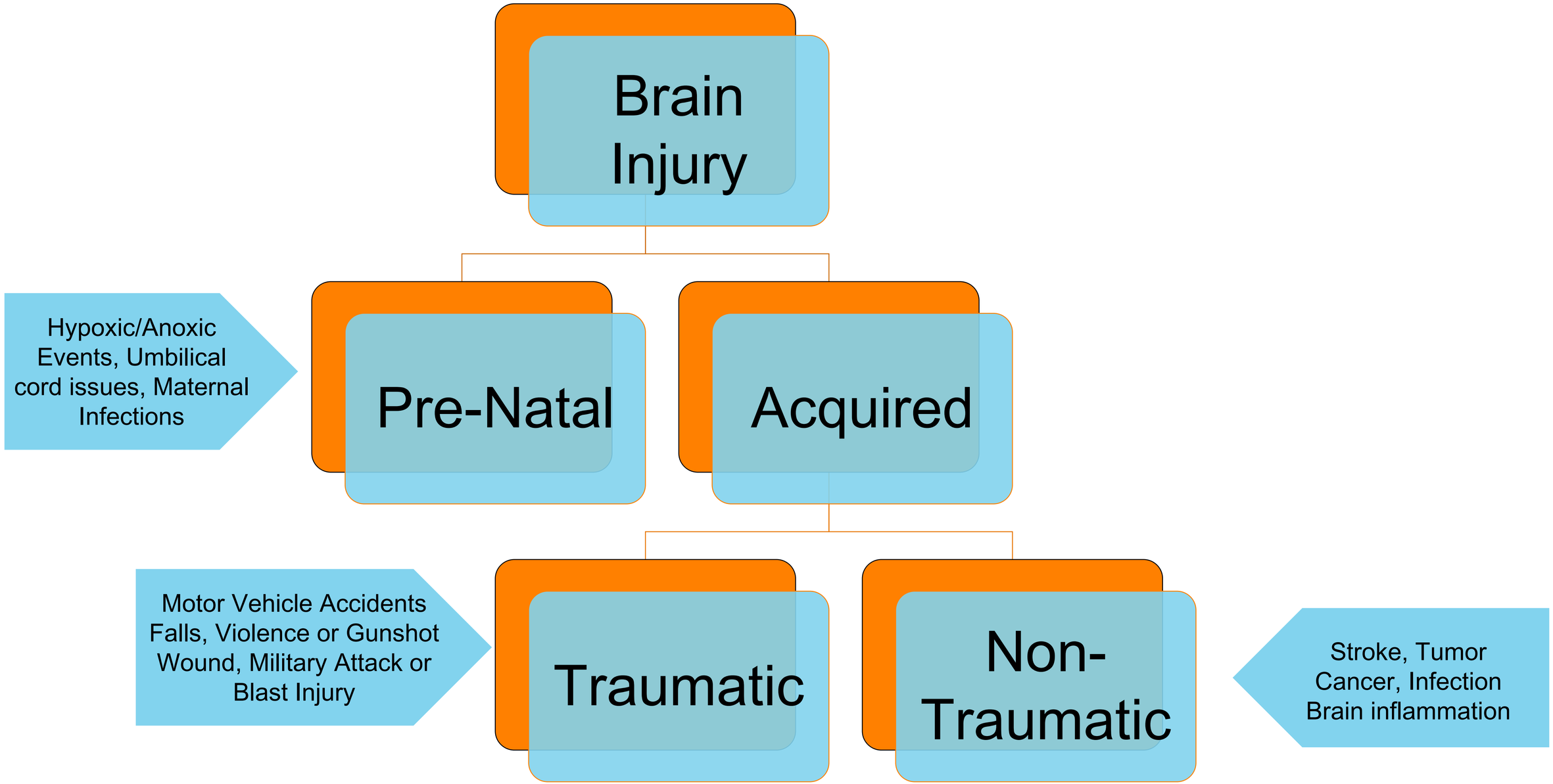
Determining where your client is

Discussion of client needs

Access methods for AAC

Motivating therapy ideas

Resources


Brain Injury
Pre-Natal
Acquired
Traumatic
Non-Traumatic
Hypoxic/Anoxic Events, Umbilical cord issues, Maternal Infections
Motor Vehicle Accidents Falls, Violence or Gunshot Wound, Military Attack or Blast Injury
Stroke, Tumor Cancer, Infection Brain inflammation

Deficits related to brain injury

Physical

- Changes in bowel and bladder function
- Changes in level of consciousness, ranging from brief loss of consciousness to coma
- Dizziness
- Fatigue
- Headaches
- Impaired movement, balance, and/or coordination
- Motor speed and programing deficits (dyspraxia/apraxia)
- Nausea
- Pain
- Reduced muscle strength (paresis/paralysis)
- Seizures
- Vomiting

Link to Brain Injury information from ASHA

Deficits related to brain injury (cont.)

Sensory–Perceptual

Auditory and Vestibular

- Auditory dysfunction from injury to the outer ear, middle ear, inner ear, and/or temporal lobe, resulting in

Visual

- Changes in perception of color, shape, size, depth, and distance
- Changes in visual acuity
- Blurred vision
- Double vision (diplopia)
- Problems with visual convergence and accommodation
- Sensitivity to light
- Visual field deficits/visual neglect

Other Sensory–Perceptual Sequelae

- Gustatory—loss of taste
- Olfactory—inability to recognize smells
- Tactile—sensitivity or defensiveness to touch; changes in perception of pain, pressure, and/or temperature

Link to Brain Injury information from ASHA

Deficits related to brain injury (cont.)

Executive Functioning

Information Processing

- Increased response latencies
- Reduced processing speed (e.g., of rapid speech and/or complex language), resulting in confusion

Memory and Learning

- Deficits in short-term memory that negatively affect new learning
- Deficits in working memory that negatively affect following directions and task completion
- Difficulty remembering to perform a planned action (prospective memory) such as remembering to take medication
- Difficulty retrieving information from memory
- Post-traumatic amnesia marked by impaired memory of events that happened shortly before the injury (retrograde)

Metacognition

- Lack of insight for monitoring one's strengths, weaknesses, functional abilities, problem situations, and so forth
- Reduced awareness of deficits (anosagnosia)

Other Cognitive Deficits

- Deficits in orientation to self, situation, location, and/or time
- Impaired spatial cognition that can affect ability to navigate and ambulate

Link to Brain Injury information from ASHA

Deficits related to brain injury (cont.)

Language

Pragmatic/Social Communication

- Conversational turns marked by verbosity
- Difficulty initiating conversation and maintaining topic
- Difficulty taking turns in conversation
- Difficulty inhibiting inappropriate language or behavior
- Impaired ability to use nonverbal communication effectively (e.g., tone of voice, facial expression, body language)
- Impaired social cognition skills (e.g., regulating emotion; expressing emotion and perceiving emotion of others; ability to take the perspective of others and to modify language accordingly)
- Inability to interpret others' nonverbal communication
- Tendency to be tangential

Link to Brain Injury information from ASHA

Deficits related to brain injury (cont.)

Language (cont.)

Spoken Language

- Anomia or word retrieval deficits
- Decreased ability to formulate organized discourse or conversation
- Difficulty following directions
- Difficulty formulating fluent speech
- Difficulty making inferences
- Difficulty understanding abstract language/concepts
- Difficulty making inferences
- Tendency to perseverate in verbal responses
- Tendency to use tangential speech
- Use of incoherent or confabulatory speech

Written Language

- Difficulty comprehending written text, particularly with respect to complex syntax and figurative language
- Difficulty planning, organizing, writing, and editing written products

Link to Brain Injury information from ASHA

Impacts

COMMUNICATION

COGNITION

PHYSICAL

EMOTIONAL

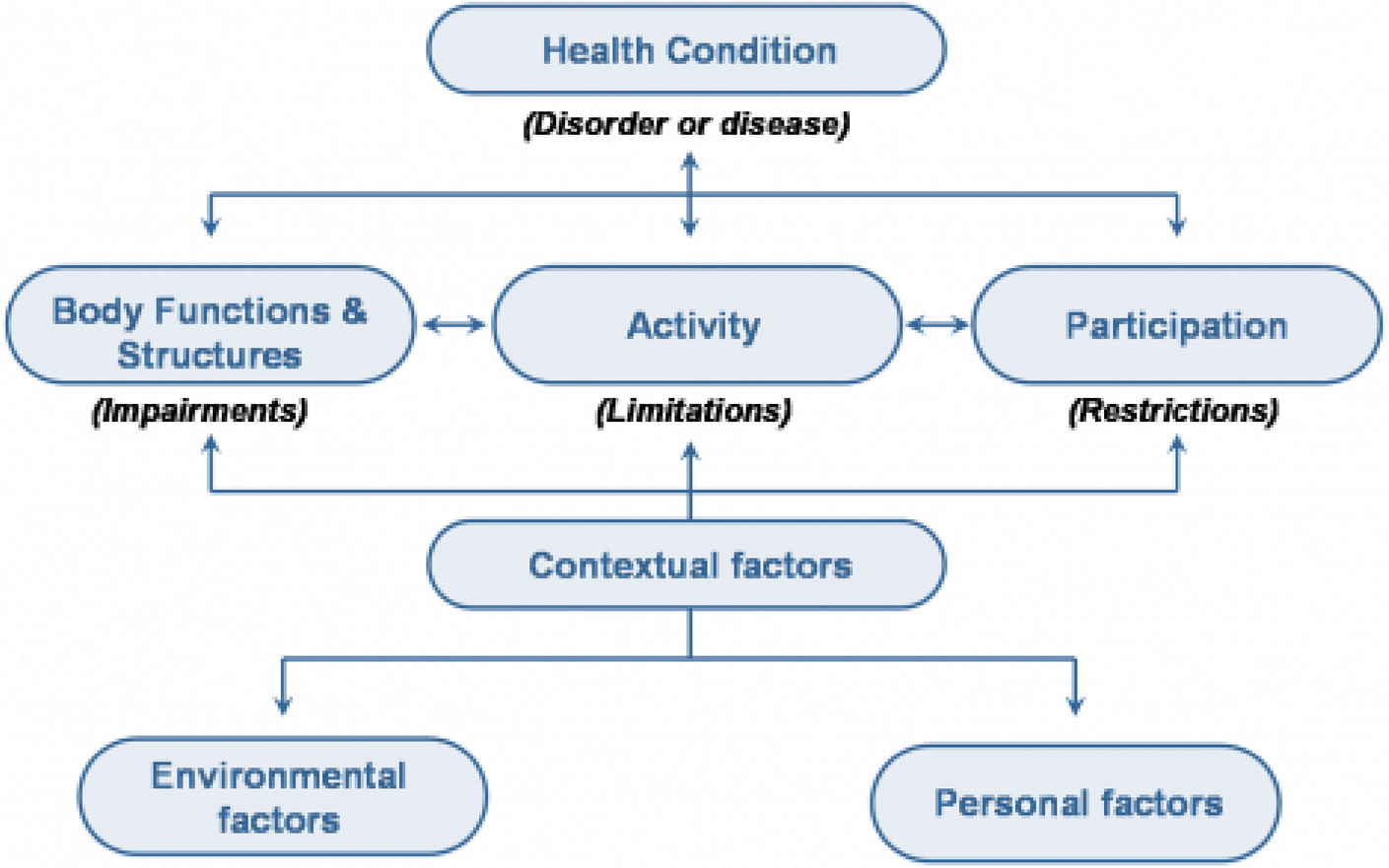
“All contact with people, all situations which define a person's place in the social sphere, his role and fate as a participant in life, all the social functions of daily life are reordered.”

-Lev Vygotsky

How do we meet clients where they are?

Determining where your client is -

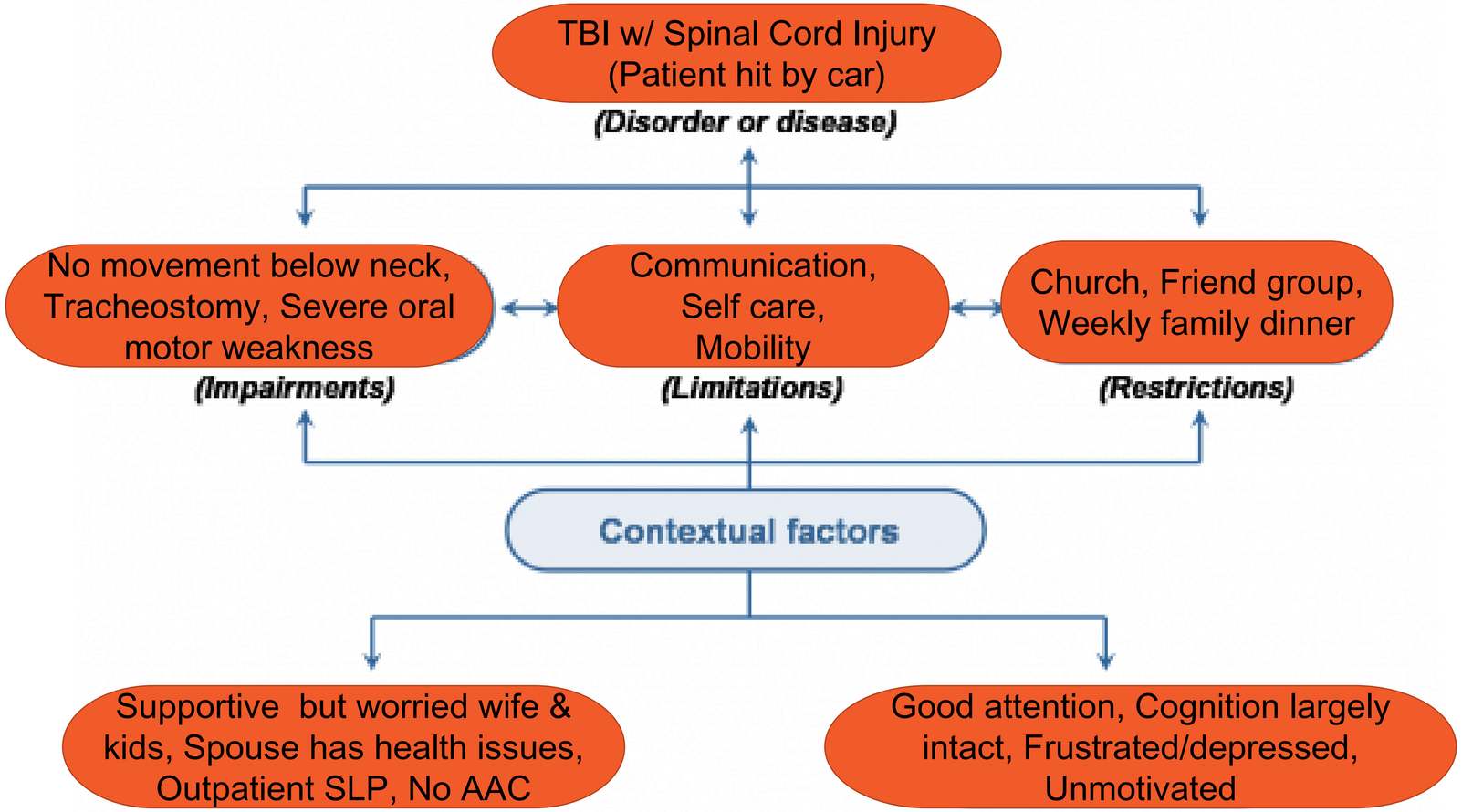
A closer look at disability



Link to International Classification of Functioning, Disability and Health (ICF)

Determining where your client is -

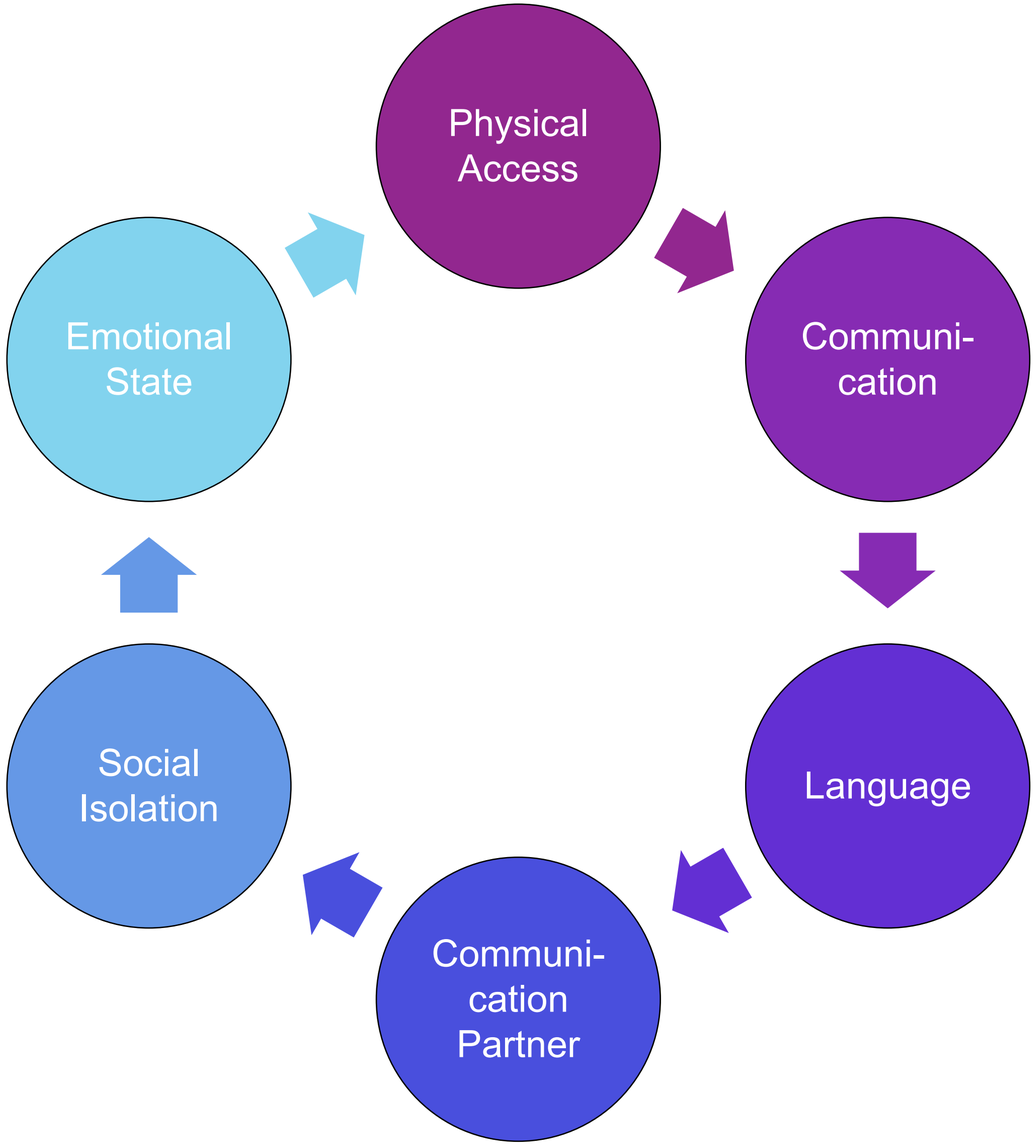
A closer look at a client



Link to International Classification of Functioning, Disability and Health (ICF)

Barriers to Communication

- Client's attitude
- Communication partner attitudes
- Communication partner skills
- Depression
- Dysarthria
- Lack of motivation
- Language comprehension/expression
- Physical access
- Social isolation


Physical Access
Communi-cation
Language
Communi-cation Partner
Social Isolation
Emotional State

When we build ramps, we reduce disability.

We meet the client where they are.

In home support for personal care

Wheelchair & accessible transportation for church & outings with friends

Accessing the environment

AAC has hit the big time!

Considerations

Just to name a few…

Symbols/Text

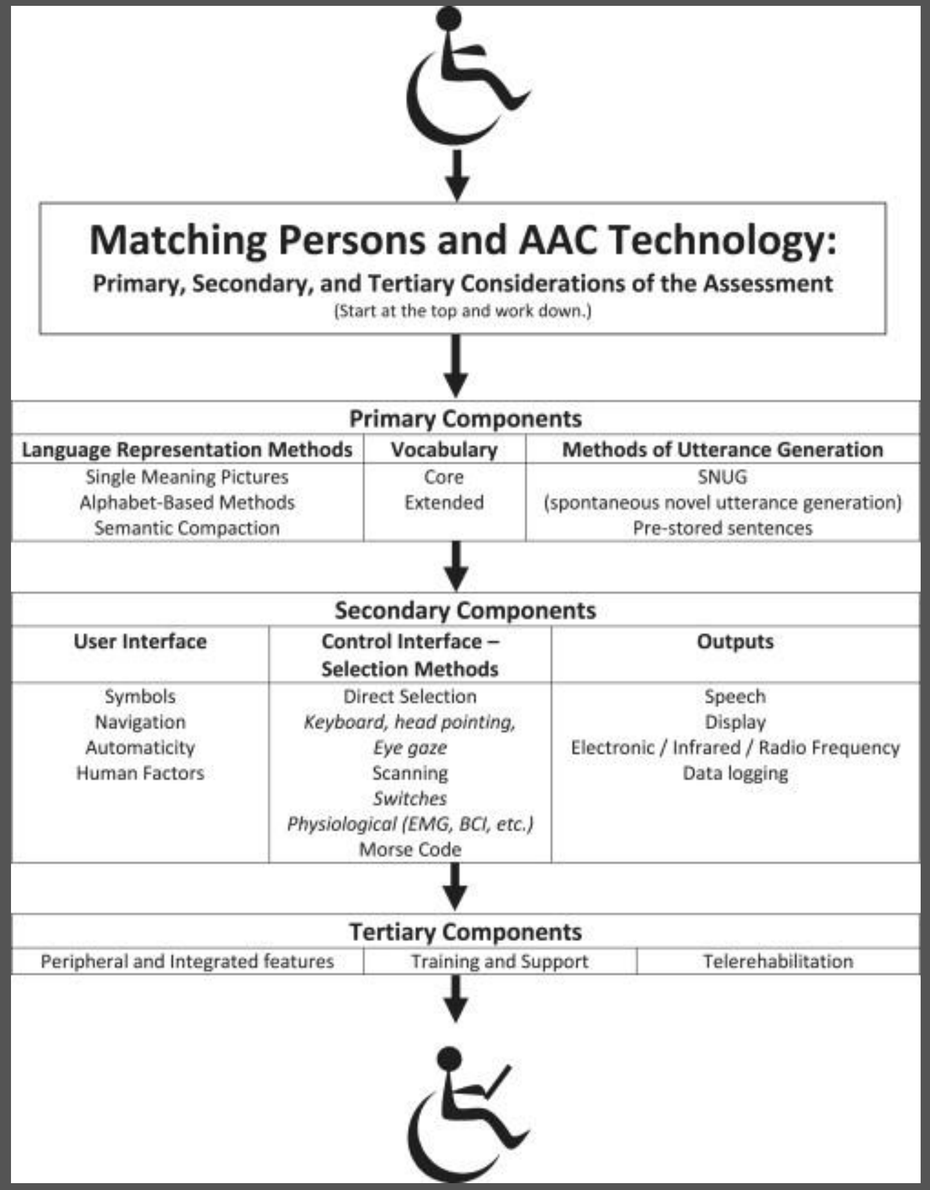
Grid/Visual Scene Display

Low Tech/High Tech

Dynamic Display/Static Display

Portability

Durability



Matching Persons and AAC Technology:

Primary, Secondary, and Tertiary Considerations of the Assessment

(Start at the top and work down.)

Primary Components

Language Representation Methods	Vocabulary	Methods of Utterance Generation
Single Meaning Pictures Alphabet-Based Methods Semantic Compaction	Core Extended	SNUG (spontaneous novel utterance generation) Pre-stored sentences

Secondary Components

User Interface	Control Interface – Selection Methods	Outputs
Symbols Navigation Automaticity Human Factors	Direct Selection *Keyboard, head pointing,* *Eye gaze* Scanning *Switches* *Physiological (EMG, BCI, etc.)* Morse Code	Speech Display Electronic / Infrared / Radio Frequency Data logging

Tertiary Components

Peripheral and Integrated features	Training and Support	Telerehabilitation

Feature Match Comparison Chart

Suggestions for use:
1) Identify if the listed features are required for your client. If so, either place a check or specifications in the *Required Feature* column. **2)** Mark any features that are not necessarily required, but are desired in the *Wish List Feature* column. **3)** Identify 1-3 possible devices and insert their names in the *Device* columns and mark which features each has. You can also indicate if more information is required. **4)** Completion of the prior steps should assist you in identifying which device(s) best fits your clients needs, abilities, and wishes.

Key Features	Required Feature	Wish List Feature	Device 1	Device 2	Device 3
Dedicated Device					
Integrated Device					
Symbols/Message Keys*					
None					
Objects					
Photos					
Symbols					
Symbols with Text					
Letters (Alphabet)					
Words/Text					
Font Size					
Color Symbols					
Black & White					
High Contrast					
Ability to Hide or Mask Keys					
Vocabulary Organization/Representation					
Visual Scene					
Single Meaning Symbols					
Phrase/Sentences					
Core Vocabulary					
Activity (Situation) Based					
Categories					
Alphabet/Spelling					
Icon Sequencing					

AAC Abandonment

Abandonment can be reduced if

- the AAC system serves the communication needs of the individual and can be updated when these needs change;
- there is a good match between the device and the user's language, physical, and cognitive abilities;
- there is collaboration with the AAC user and their family to incorporate their needs and values during selection of the device;
- the clinician provides realistic timelines regarding progress and use of the device that are understood by the user;
- the AAC user experiences communication success with the system;
- the AAC user values the system and has a sense of ownership;
- thorough training is conducted with both the AAC user and the family/caregiver after receipt of the device; and
- ongoing training is conducted for new communication partners (e.g., new staff at a vocational setting).

Link to ASHA's Practice Portal section on AAC

ASHA says

- The design of an AAC system incorporates each individual's strengths and needs. It incorporates the individual's full communication abilities and may include existing speech, vocalizations, gestures, languages spoken, and/or some form of external system (e.g., SGD).

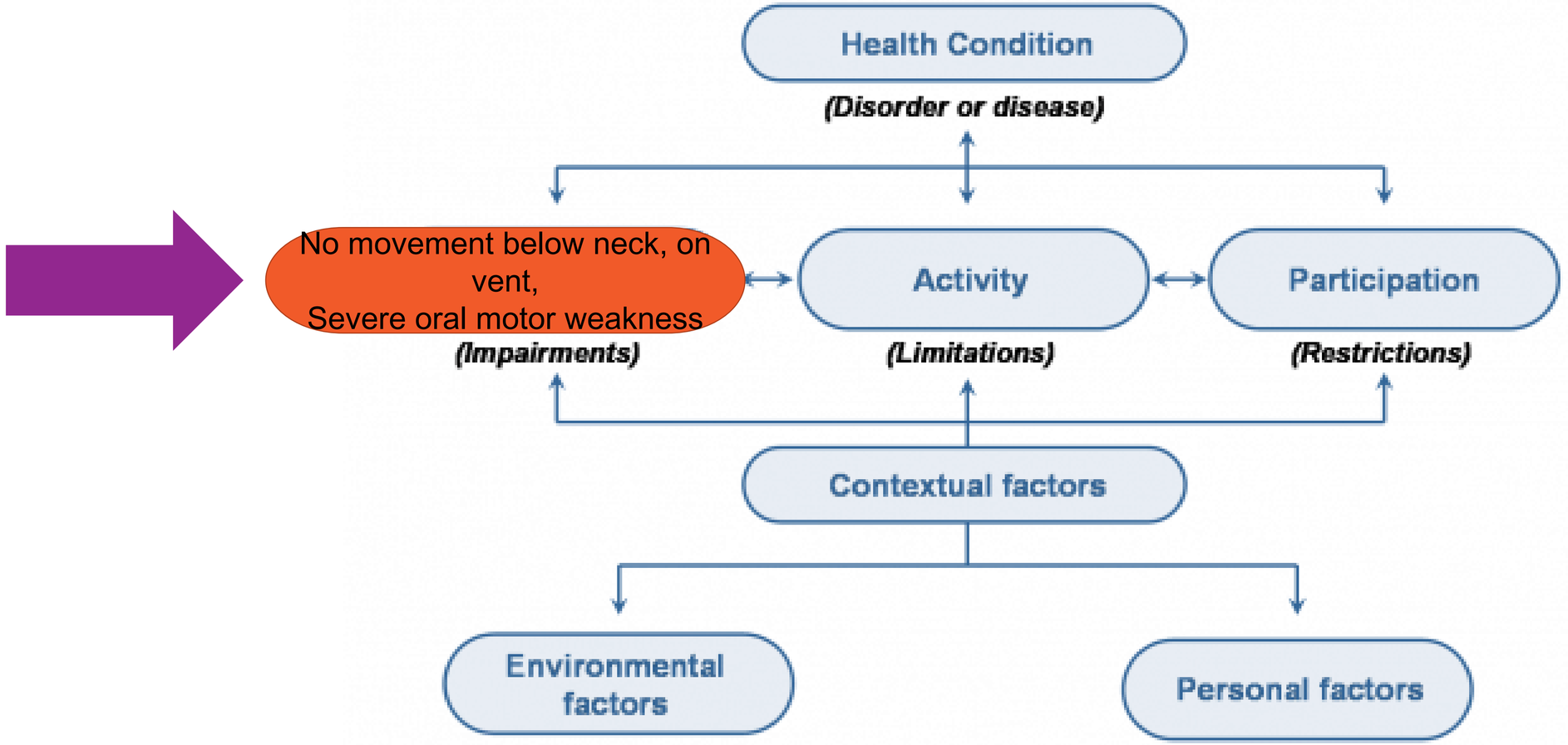
- An individual may use multiple modalities or many systems of AAC in combination, allowing for change based on context, audience, and communicative intent. A well-designed AAC system is flexible and adaptable. It allows for changes to vocabulary and mode of access as the individual's language and physical needs change over time. A well-designed system also maximizes the individual's abilities to communicate effectively and efficiently across environments and with a variety of communication partners (Beukelman & Mirenda, 2013).

Link to ASHA's Practice Portal section on AAC

A robust AAC system should provide at least

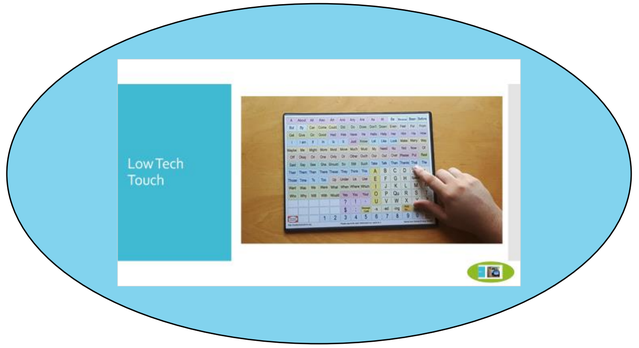
- S.N.U.G.- Spontaneous Novel Utterance Generation
- Phrase-based communication options
- Ability to retell stories

Personal Factors

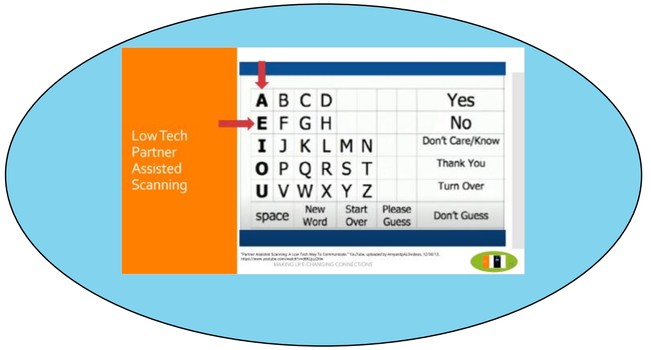


Access Options

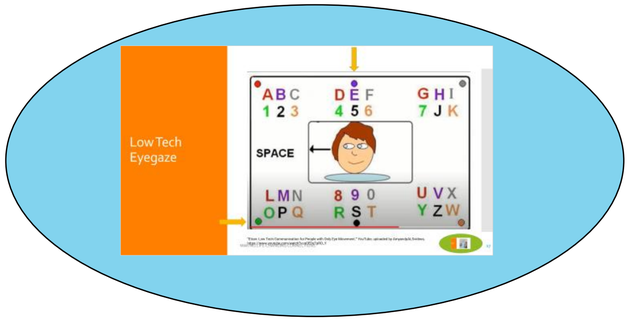
Touch



Scan



Eyegaze



Low Tech Partner Assisted Scanning

"Partner Assisted Scanning: A Low Tech Way To Communicate." YouTube, uploaded by AmyandpALSvideos, 12/30/13, https://www.youtube.com/watch?v=d8KLjuJ2tlw
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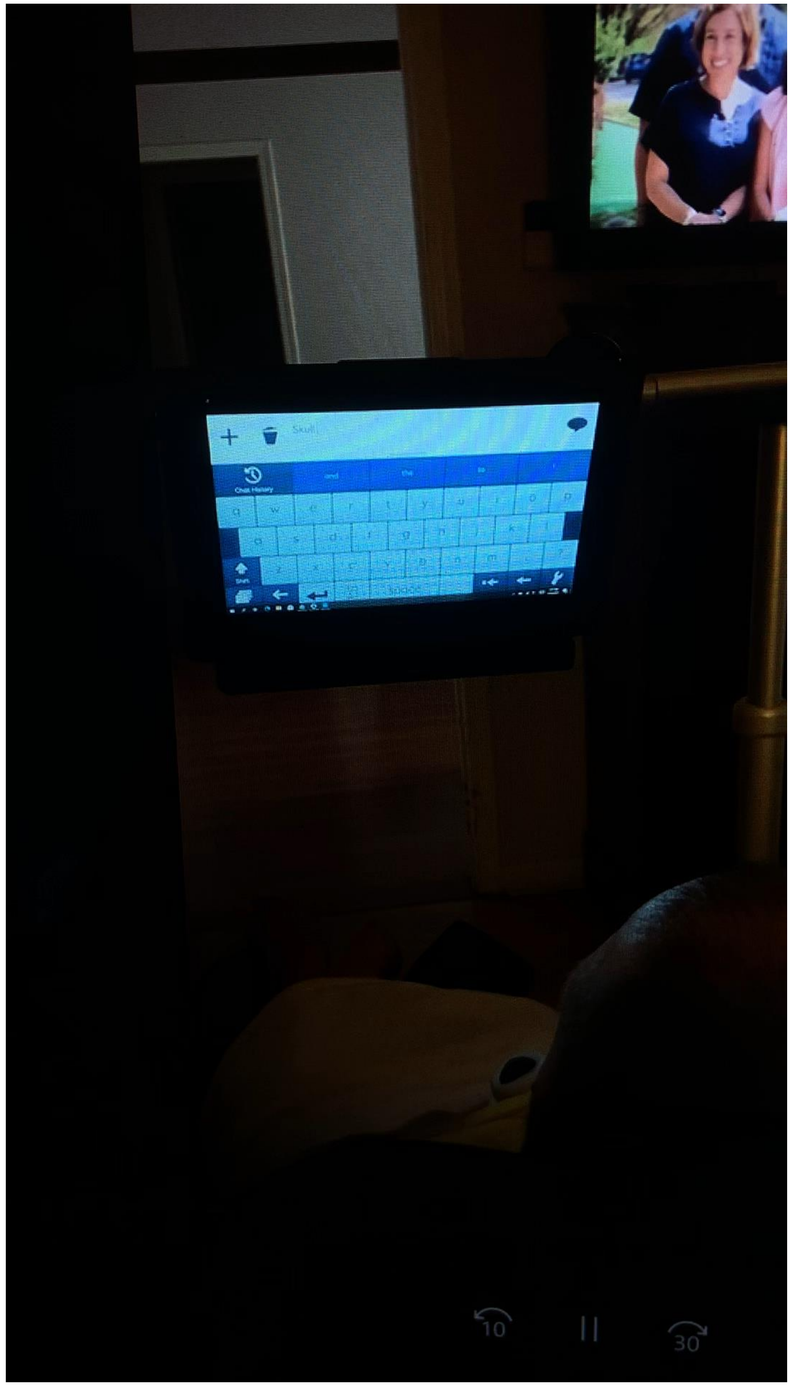
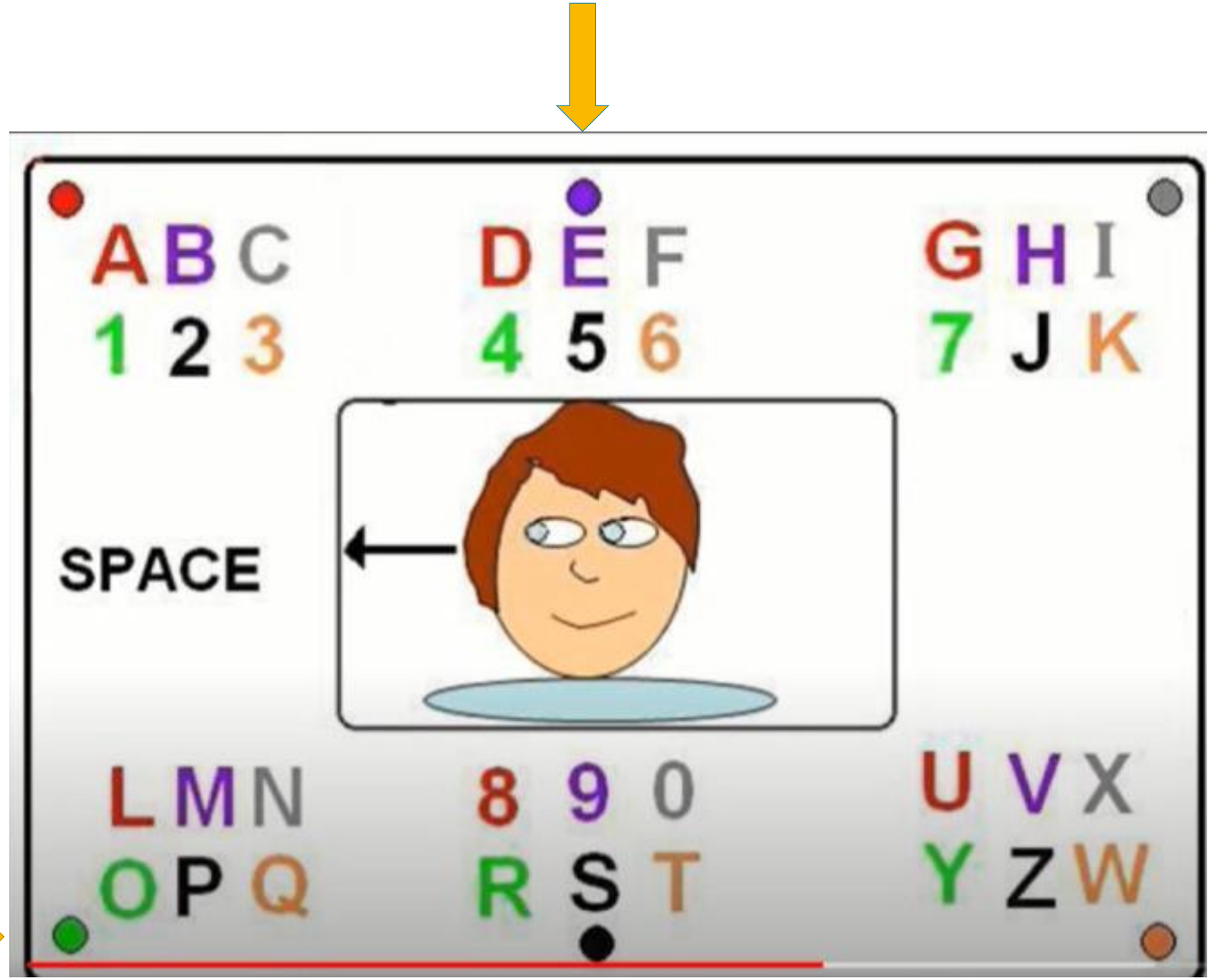
High Tech Scanning

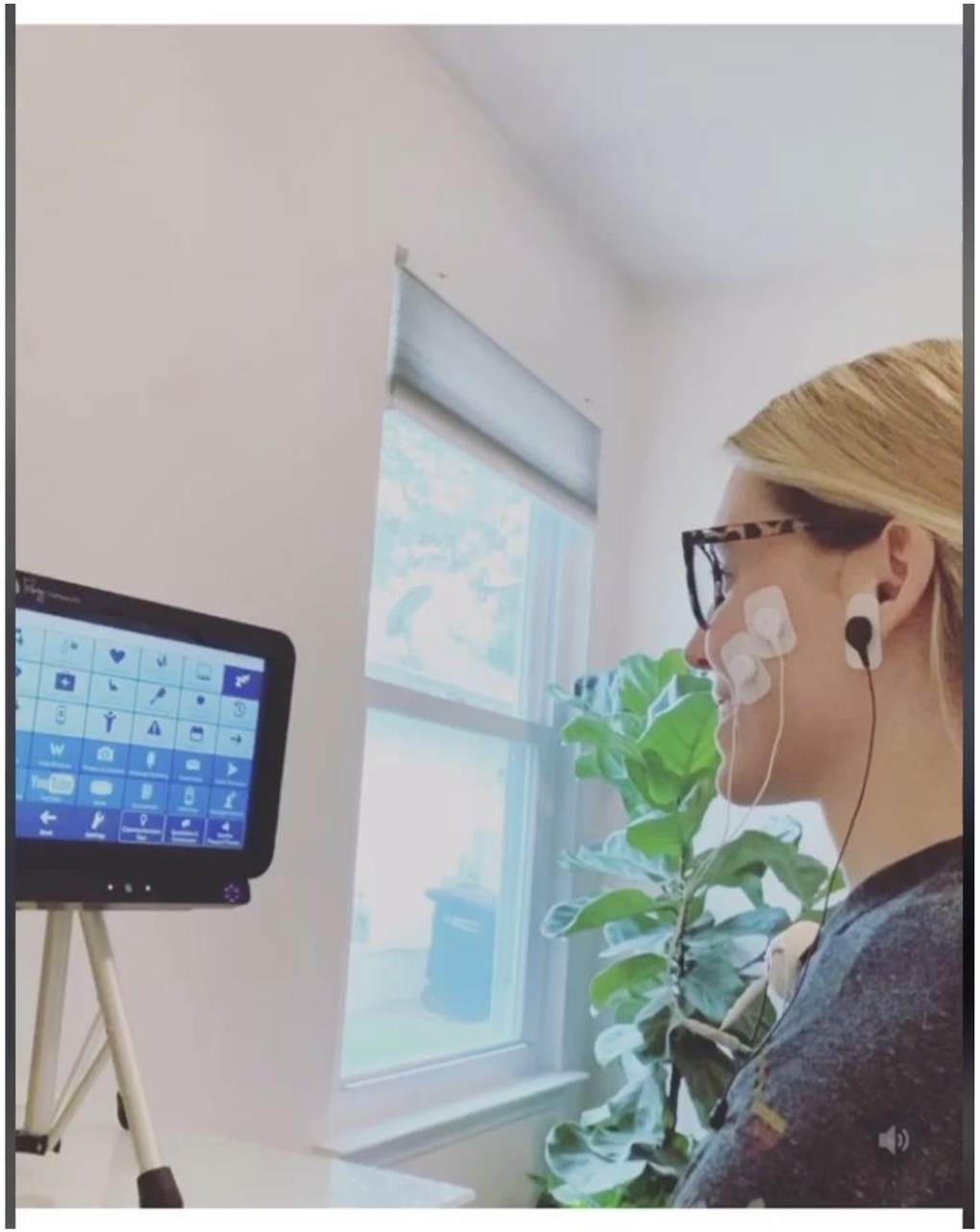


Low Tech Eyegaze

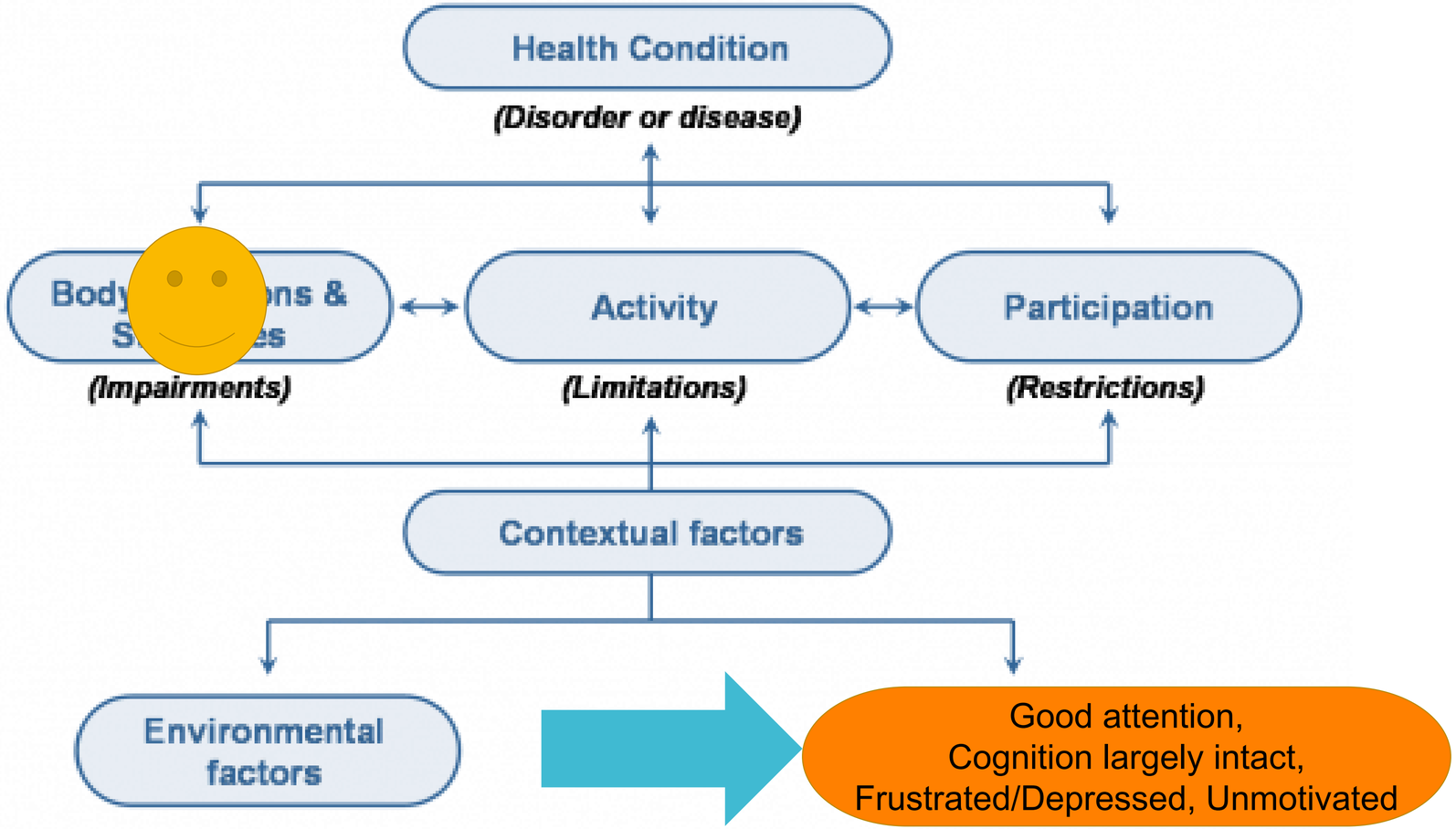


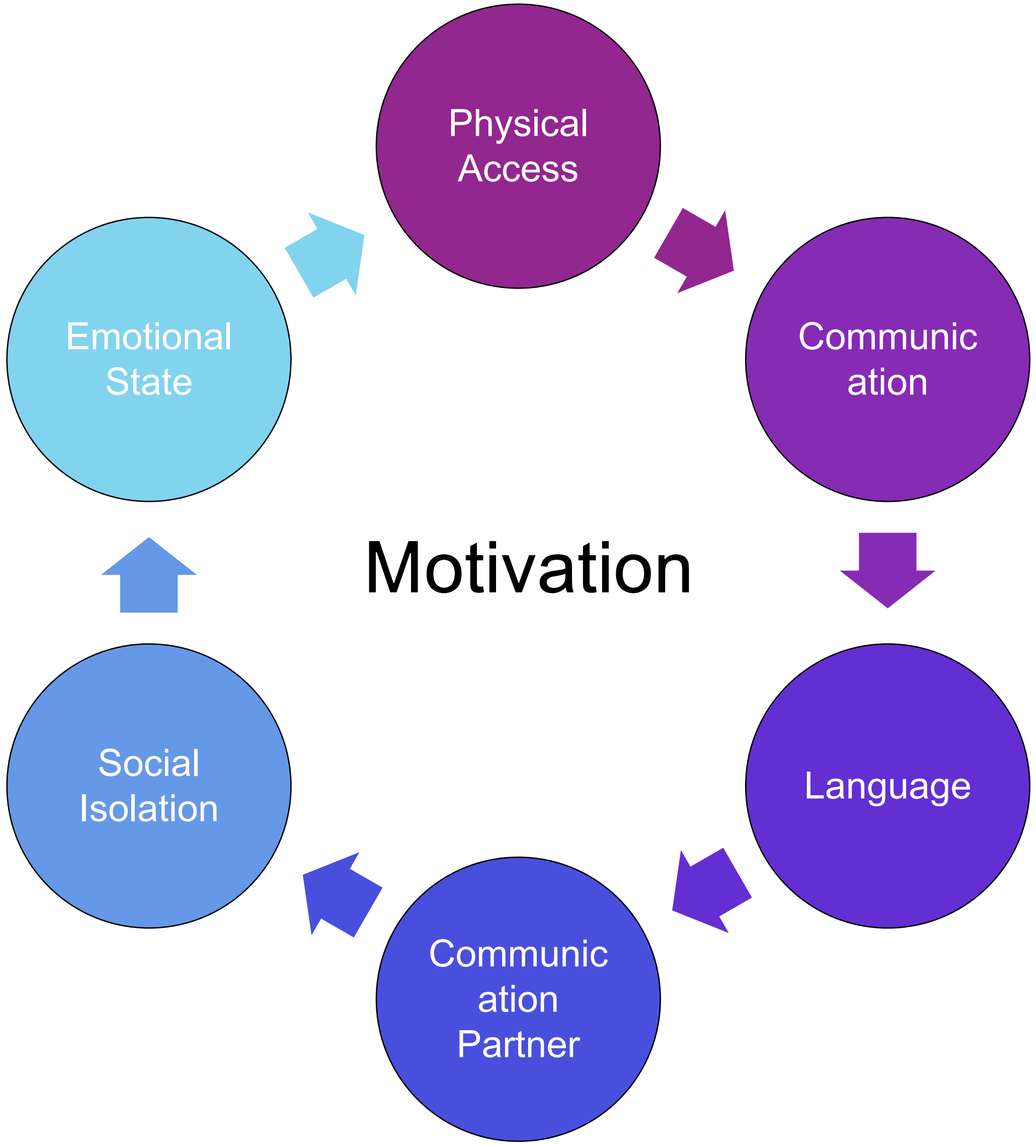
"Etran: Low Tech Communication for People with Only Eye Movement." YouTube, uploaded by AmyandpALSvideos, https://www.youtube.com/watch?v=q0EDsTpRO_Y

High Tech Eyegaze



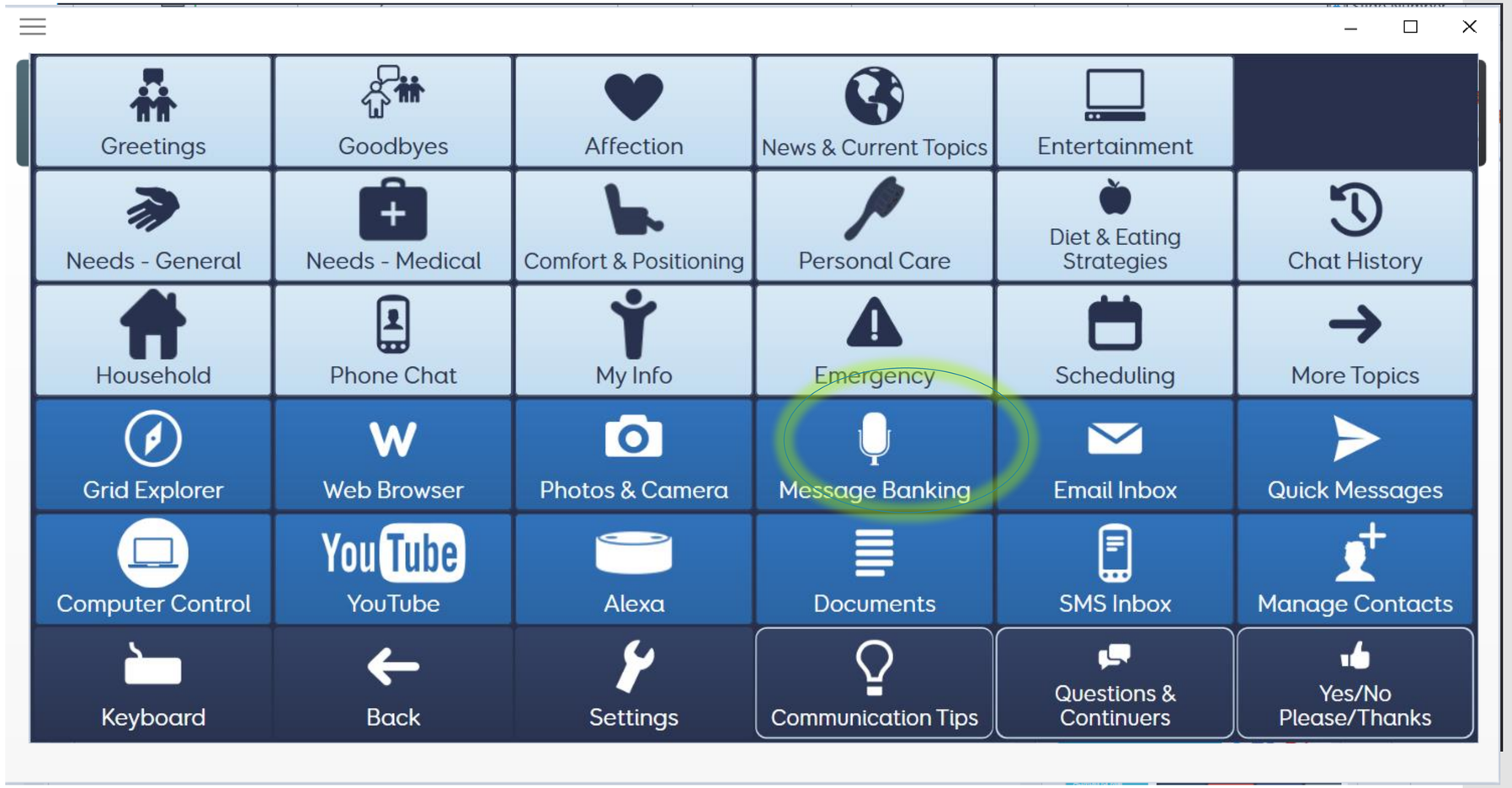
Personal Factors




Physical Access
Communic ation
Language
Communic ation Partner
Social Isolation
Emotional State
Motivation

Communication is connection

Activities for Real Connection



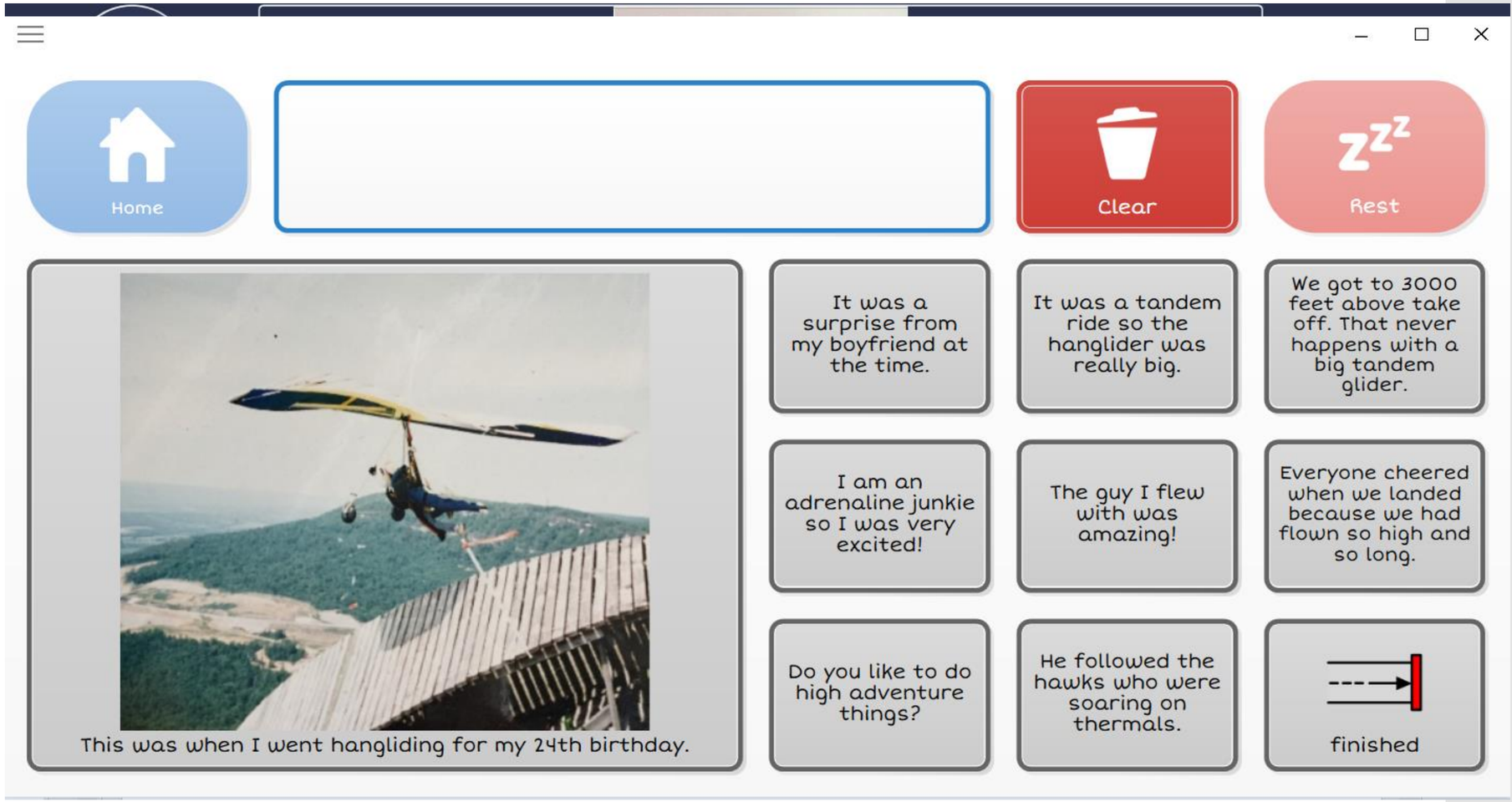
Stories of hope, support, and empowerment have appeared previously in the personal narratives of people with TBI. Hope is fundamental to achieving positive outcomes in TBI recovery and is an important feature of depression after TBI.

Indeed, a recent review identified that hope is a critical factor in rehabilitation and recovery after TBI and rehabilitation professionals aim to foster hope and provide the person and their supporters with information and ways to garner emotional or practical support from peers.

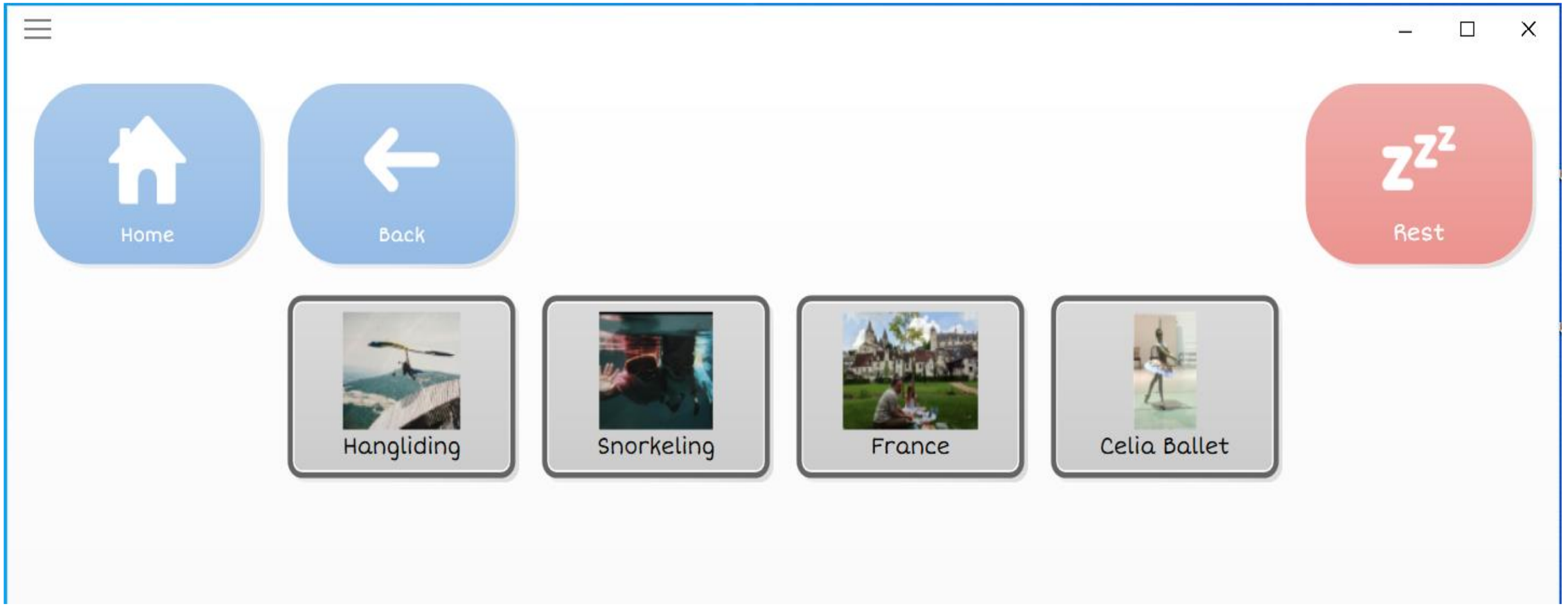
Let the Client Lead

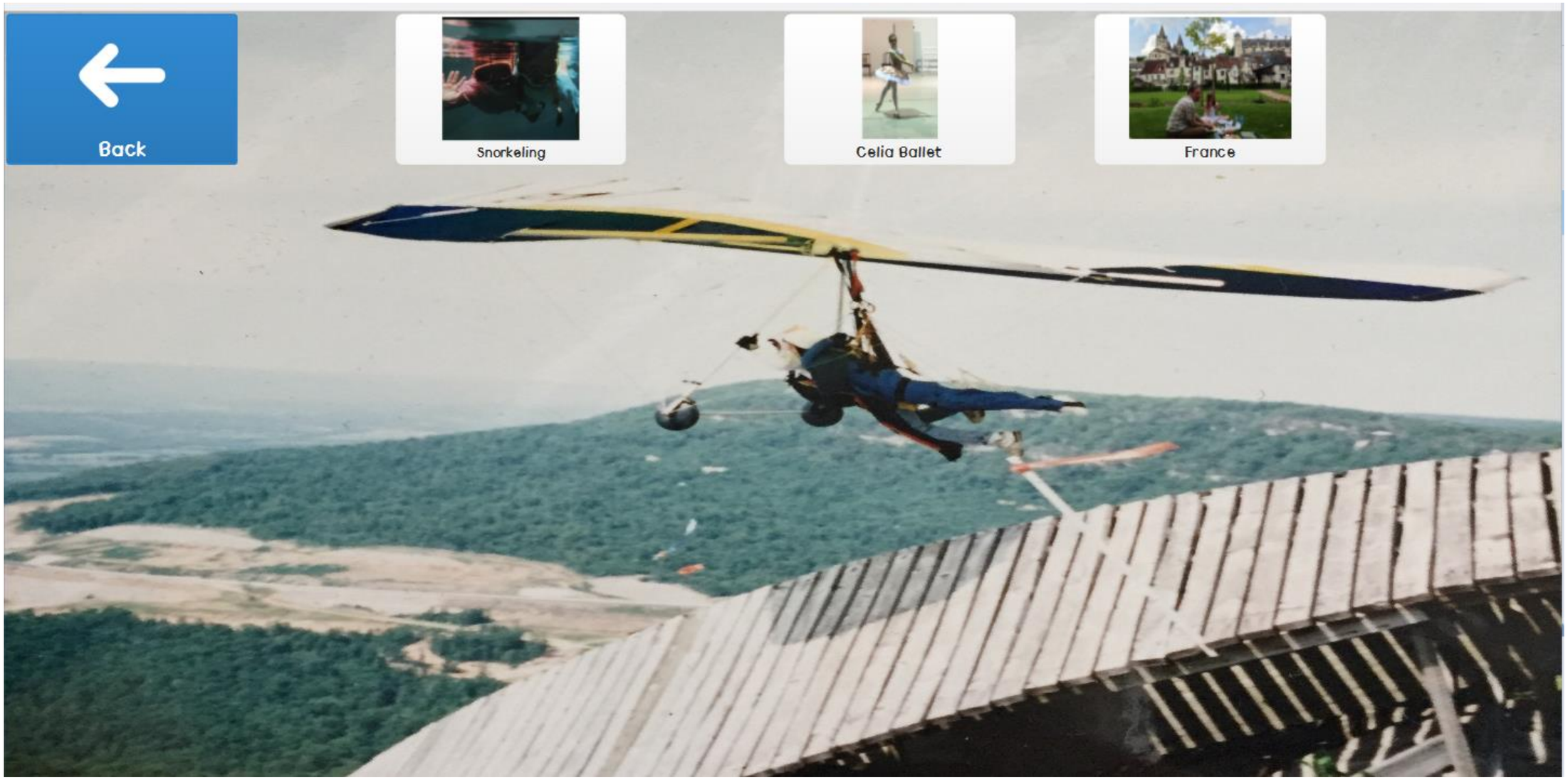
- Train communication partners
- Advocacy work
- Mentor younger AAC users

Tell Stories That are Meaningful



A Word About Device Displays




Back
Snorkeling
Celia Ballet
France

Connect with Other AAC Users

Help clients find and join online AAC user groups.

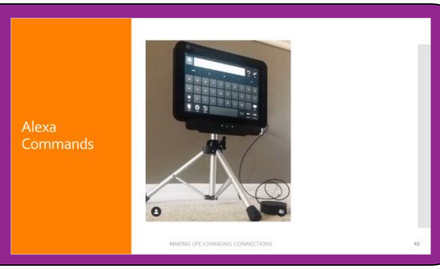
Start an AAC book group.

Get out and about with fellow AAC users -work with other therapists in your area to create social networks & AAC meetups.

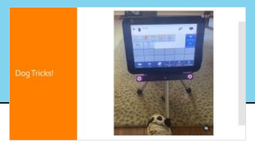
Just for Fun!

Create a joke page

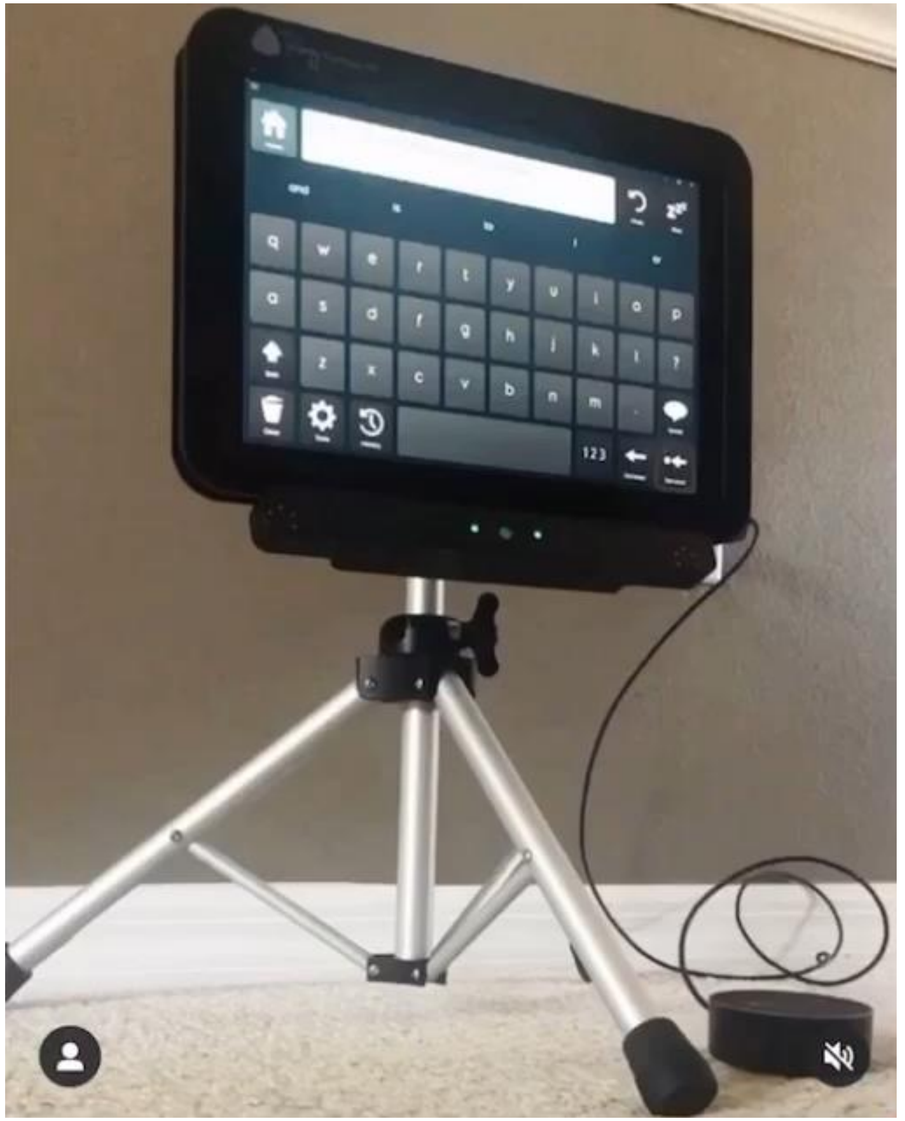
Command Alexa or Google



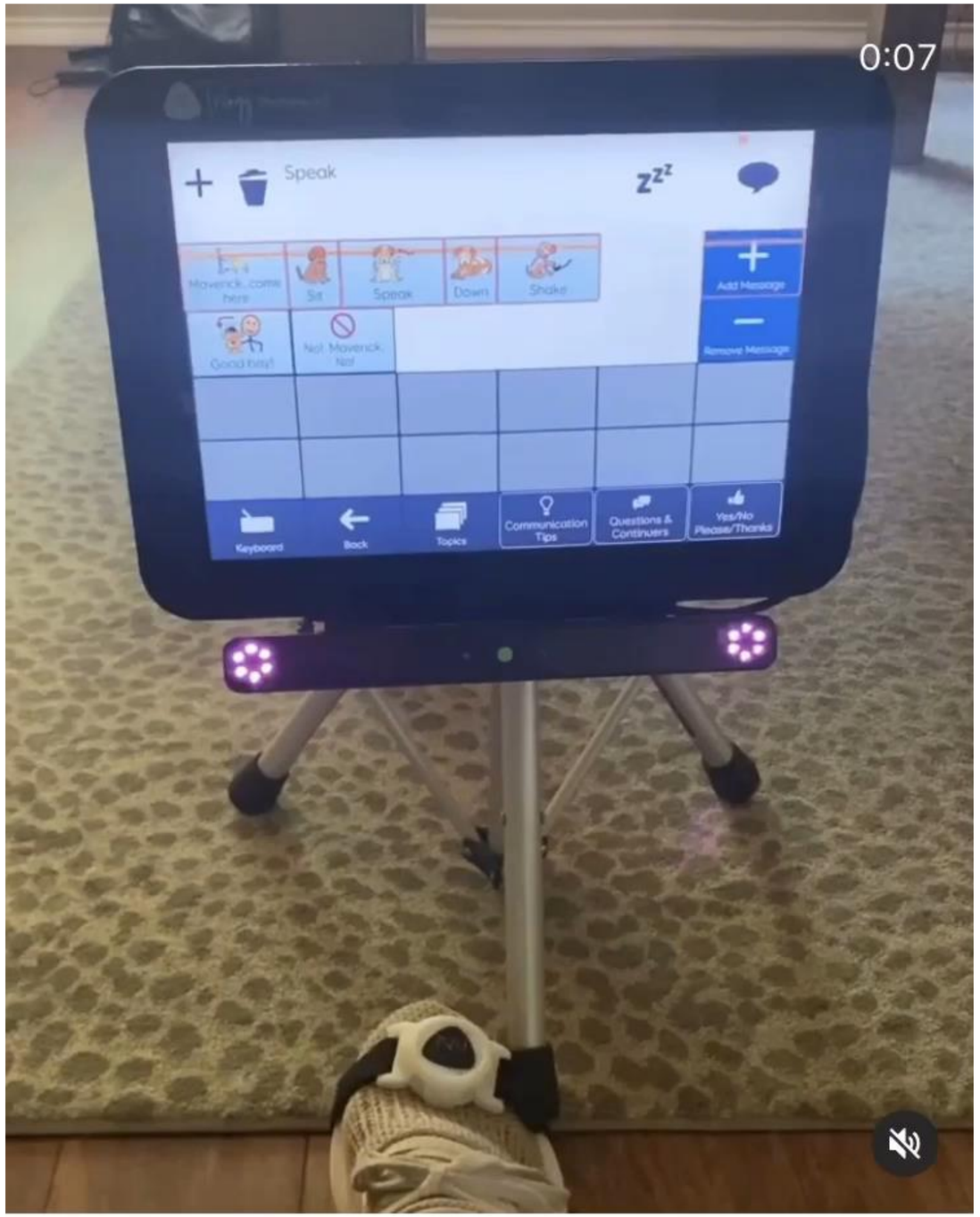
Teach the family dog to do tricks using AAC users device



Alexa Commands



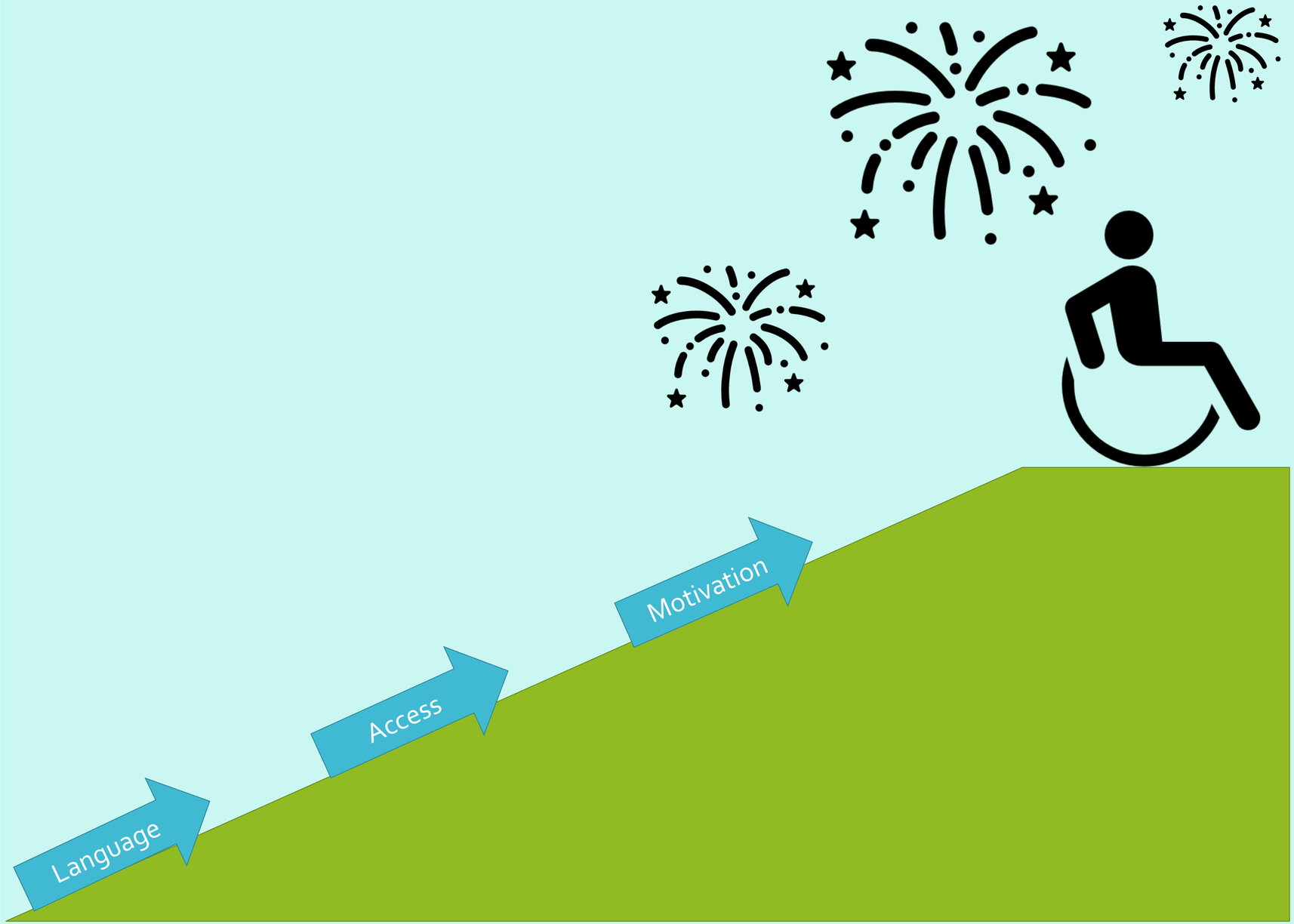
Dog Tricks!


0:07
Speak
Zzz
Maverick...come here
Sit
Speak
Down
Shake
Add Message
Remove Message
Good boy!
Not Maverick. No!
Keyboard
Back
Topics
Communication Tips
Questions & Continuers
Yes/No Please/Thanks


Physical Access
Communication
Language
Communication Partner
Social Isolation
Emotional State
Motivation

Communication is connection

When we build ramps with our clients, they connect and they succeed



Resources

- ICF Resources
- ICF Checklist
- Communication Supports Inventory-Children & Youth
- Communication Matrix
- AAC Assessment Resources
- Communication partner training
- Bridges AAC Mentoring Program
- Aphasia Book Club
- SpeakBook Download
- AAC User Groups Post on PraacticalAAC
- Facebook groups:
  - AAC - Alternative Awesome Communicators
  - Ask Me-I'm an AAC User!

More Low Tech Examples

- ETRAN
- SpeakBook
- Eyegaze Quadrants
- PODD
- Partner Assisted Auditory Scanning

Works Cited

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- Janice Light, Krista M. Wilkinson, Amber Thiessen, David R. Beukelman & Susan Koch Fager (2019) Designing effective AAC displays for individuals with developmental or acquired disabilities: State of the science and future research directions, Augmentative and Alternative Communication, 35:1, 42-55, DOI: 10.1080/07434618.2018.1558283

Thank you!

Have questions, ideas or suggestions?

Want to collaborate or know more about anything you saw?

Get in touch:

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Learn more about Control Bionics & the NeuroNode


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