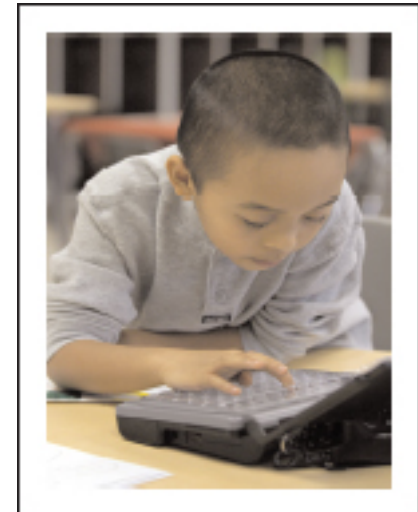


AT 203: WHY IS THE STUDENT HAVING DIFFICULTY WITH DIRECT ACCESS?

Michelle L. Lange, OTR/L, ABDA, ATP/SMS



Introductions

- Who am I?
- Goals for today
 - Put in chat box



What we will be covering:

Your student is using Direct Access to control a speech generating device, but is struggling.

- How do you determine if the issue is motor-based or something else?
- If the client is struggling due to motor skills, what can be done to optimize Direct Access?
- When are other access methods more appropriate?



Direct Access

- What is it?
- Definition:
 - Direct access by finger or pointer to location on SGD display
-



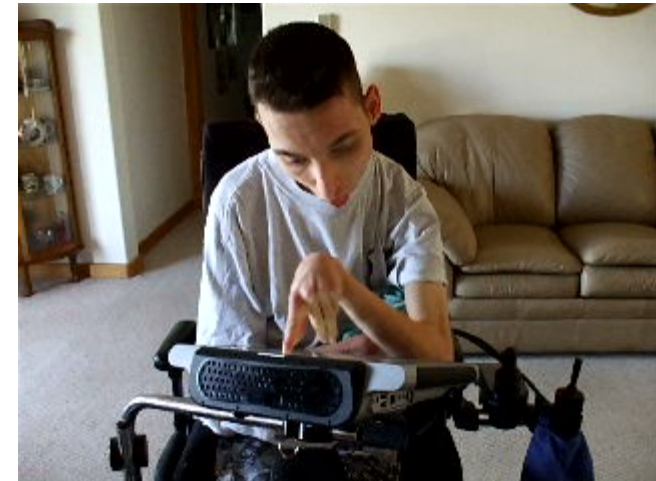
Direct Access

- Clinical Indicators
 - Requires accuracy, finger isolation
 - For the required amount of vocabulary
 - Requires sufficient activation pressure
 - Requires ability to release (stability)
 - Vision



Direct Access

- How do I know if a student is struggling?
- Efficiency
 - Time + Effort + Accuracy = Efficiency
 - *Eric video



The Struggle

- Is it Motor or something else:
 - Motivation
 - Understanding
 - Vision



Eliminating other Causes

- Motivation
 - The client may not yet have the 'buy in' to use the device
 - The client may see this as a therapeutic activity, not communication
 - Engaging vocabulary is important
 - i.e. Ally
 - Motivated by social conversation



Eliminating other Causes

- Understanding
 - The client must understand that activating a location on the SGD is communicating
 - Reinforcement from communication partner
 - Depending on the communication strategy:
 - The client may need to read
 - The client may need to understand what a symbol / icon represents



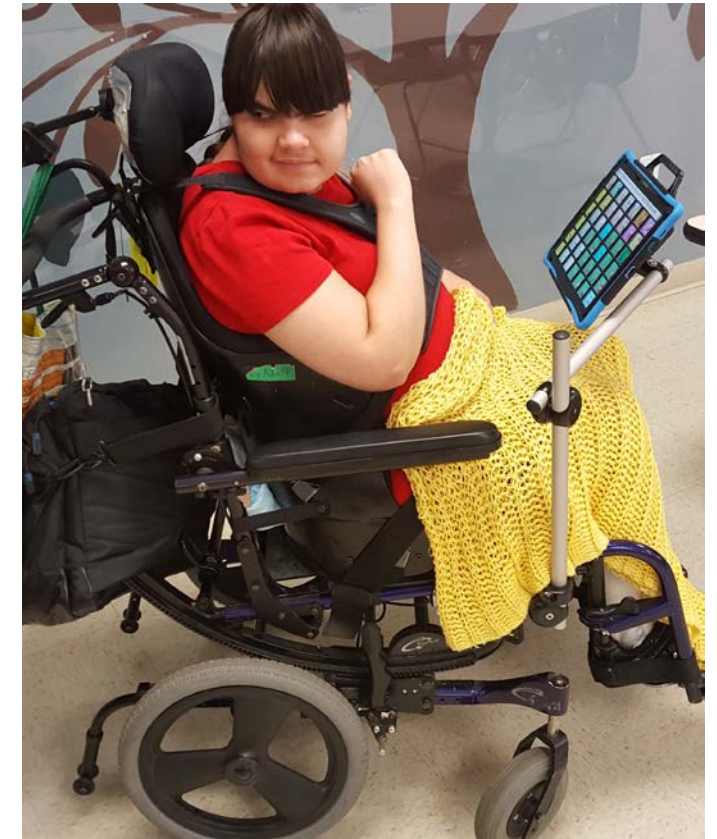
Eliminating other Causes

- Vision
 - The client needs to see the display
 - The client needs to be able to discriminate a word / symbol from those around it
 - The client needs to be able to track / scan vocabulary to make a selection



Motor Struggles

- If motor skills are impacting Direct Access
- Strategies to improve direct access
 - Positioning the client
 - Positioning the device
 - Facilitators →



Direct Access

- Facilitators to optimize direct access
 - Pointers
 - Keyguards
 - Programming



Direct Access

- Facilitators
 - Splinting
 - Wrist alignment
 - To direct force where it needs to go
 - Finger isolation



Direct Access

- Pointers

- Hand held
- Splint or universal cuff mounted
 - When finger cannot be isolated
 - May be hard to see targets
- Head mounted – rarely used
- Chin mounted – rarely used



Direct Access

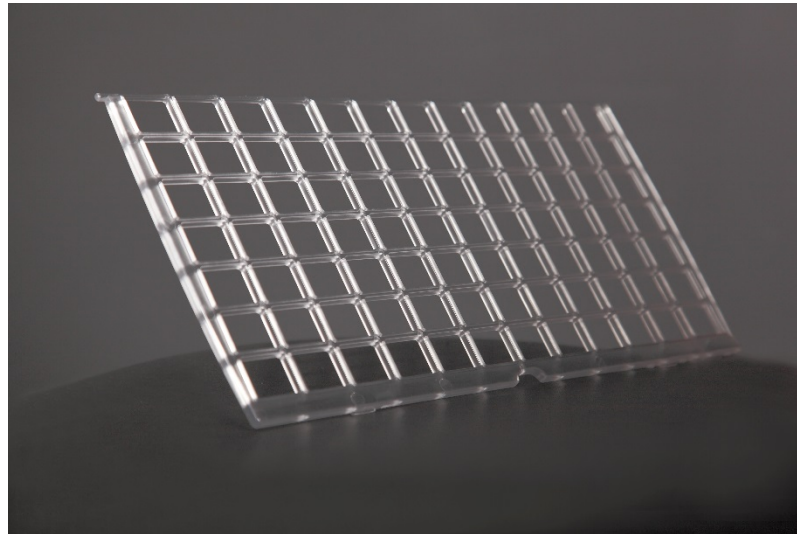
- Pointers

- If a tablet or even smart phone based SGD is being used, the pointer must have a specialized end to activate the device
 - It must be conductive



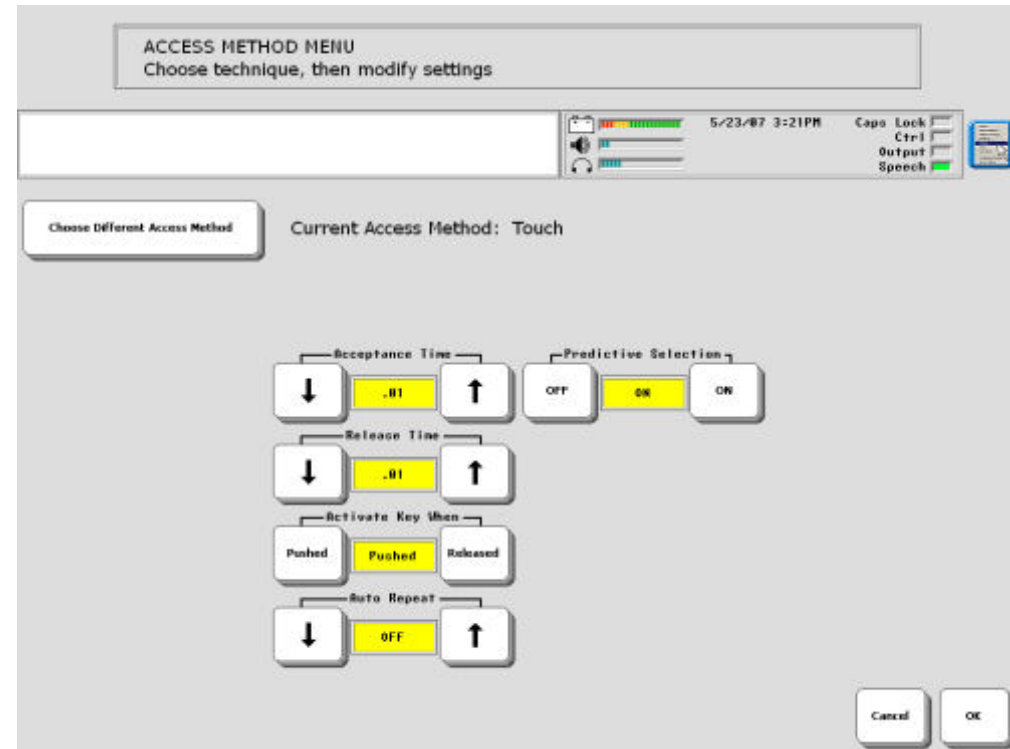
Direct Access

- Keyguards
 - Provide stability
 - Promotes finger or thumb isolation
 - Visual implications



Direct Access

- Programming
 - Activation on contact or release
 - Activation Acceptance time
 - Allows client to move across display without accidental activations
 - Audio feedback
 - Choices may differ on tablet based devices



Direct Access

- Programming
 - Vision
 - Changing the size of the locations
 - Colors and contrast
 - Color coding



Moving on to a New Access Method

- When do I know to move on from Direct Access?
 - Motor:
 - If the client cannot reach all areas of the display
 - If the client's motor skills are limiting vocabulary choices



Moving on to a New Access Method

- When do I know to move on from Direct Access?
 - Vision:
 - If the client cannot see the display well enough to locate and select vocabulary
 - If the client's vision is limiting vocabulary choices
 - Auditory scanning may be required



Questions?

Case Study

- Ally
- Early 20's
- Cerebral palsy, seizures
 - Hemipherectomy, now hemiplegia
- Using Direct Access
- Problem:
 - Not using device well

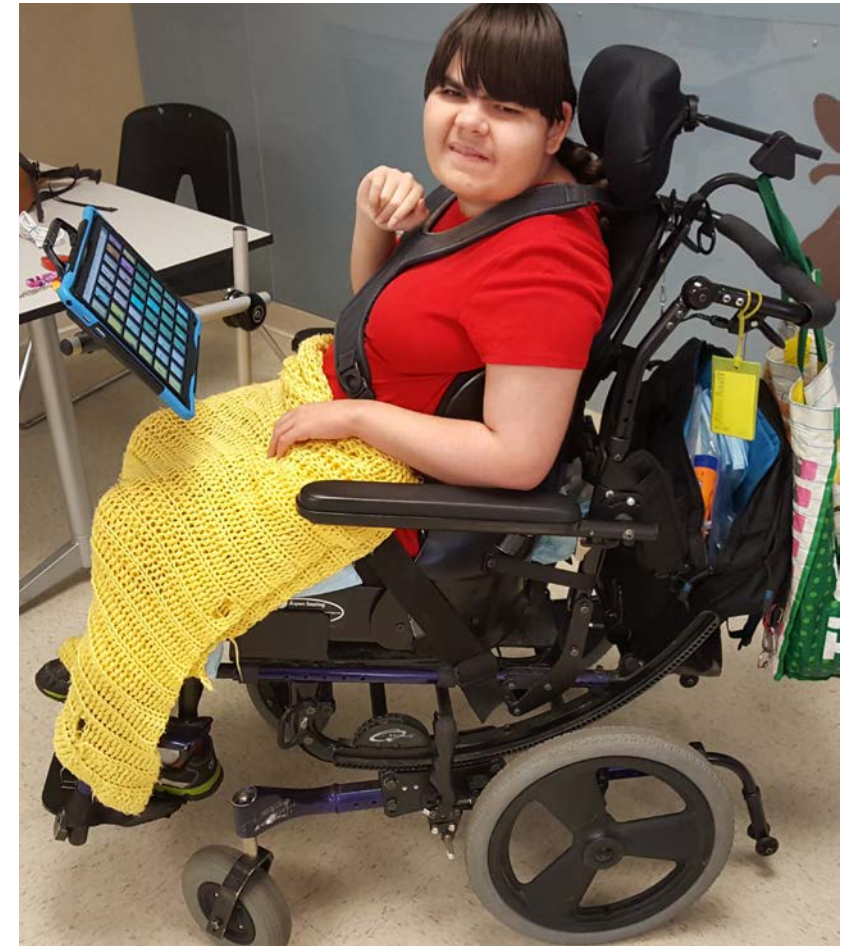


Case Study

- Ally
- Problems:
 - Positioning
 - Motivation
 - Understanding

Case Study

- Ally
- Positioning
 - Hanging on anterior trunk support
 - Contours of the seating system were not matching her
 - New seating system recommended
 - She could now sit upright
 - Improved visual regard of device
 - Improved proximal stability
 - Improved UE function for access



Case Study

- Ally
- Motivation
 - Ally was not motivated by her vocabulary choices
 - These did not have meaning for her
 - Interests? Social!
 - Added a new page with lots of social conversation which she was more motivated to use



Case Study

- Ally
- Understanding
 - Ally did not fully understand that this was a communication tool, rather than something she had to do in therapy.
 - She required very responsive communication partners

Questions?

Case Study

- Emma
- Elementary School age
- Rare progressive muscle disease
- Problems:
 - Not accessing device to potential
 - Progressive condition



Case Study

- Emma
- The device was placed at a distance from her and at an angle
- She did not have good control at this angle, mostly as her arm did not have adequate support



Case Study

- Emma
- The device was repositioned where her accuracy improved and effort was decreased
- She now had stability from the arm support



Case Study

- Emma
- Access was becoming more difficult due to progressing muscle weakness and increasing extraneous movements
- She did not have the range to reach both her communication device and her power wheelchair joystick
- We evaluated her ability to use the communication device through a joystick instead



Case Study

- Although Emma could still use Direct Access, this was becoming more difficult and she was unable to use the communication device and the power wheelchair joystick together due to lack of active range
- We interfaced the communication device through the power wheelchair
- Emma used a Joystick mouse when she was in her manual wheelchair



Questions?

Case Study

- Lauren
- Now an adult
- Cerebral Palsy
- When she was in her early teens, she used direct access
- She started developing upper back pain from using her arm to access
- She was also not efficient
 - Too slow, too much effort



Case Study

- Lauren
- We tried a switch by the left side of her head and she did very well
- She didn't like how slow it was
 - Waiting for the scan felt so slow...
- We did a timed comparison and each method actually took the same amount of time
 - Scanning was more efficient though
 - Less effort, increased accuracy



Case Study

- Lauren
- For a few years, she would use Direct Access in the morning and then change to Switch Access when her back started hurting and her accuracy decreased
- Now she only uses Switch Access

Questions?

Case Study

- Eric
- Adult
- Cerebral Palsy
- Using Direct Access
- Problem:
 - Inefficient
 - Too much time, too much effort
 - *Video 1: current access



Case Study

- Eric
- Tried a joystick mouse, as he drove with good control and he needed to stabilize
 - The joystick mouse allowed him to hold onto the joystick handle to maintain stability
- He did very well and we interfaced the communication device with his power wheelchair
- *Video 2A and 2B of Mouse Access
- Caution – using a joystick to control a communication device can be quite difficult compared to driving



Questions?

Thanks!

Upcoming Webinars:

- 7/17/18
- AT 204: Why is the student having difficulty using Eye Gaze?

- 8/14/18
- AT 205: How do I determine where the student can access a switch?

- 9/18/18
- AT 206: How do I determine what type of switch the student can use?

Contact Information:

- Michelle Lange
- MichelleLange1 @outlook.com
- www.atilange.com