Comparison of Eye Gaze and Head Pointing Access for Communication Devices

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Learner Outcomes

- identify 3 AAC devices that allow eye gaze access
- identify 3 AAC devices that allow head pointing access
- find resources for trial equipment
People with Complex Communication Needs (CCN)

- Vocabulary and Language
  - Software specific to each device
  - WordPower, Unity, Essence, Navigator, etc

- Access
Hierarchy of Access to Augmentative and Alternative Communication (AAC) Devices for People with CCN

- **Direct Selection**
  - Touch (Settings, Pointers, Mittens)
  - Head Pointing – direct select
  - Eye Gaze – direct select
  - Mousing

- **Indirect Selection**
  - Single/dual switch scanning
  - Directed/joystick scanning
“It is important to realize that the technology is neutral, neither the evil problem maker nor a panacea for all obstacles. How these tools are put to use and whether they match the needs and goals of the person who relies on them are the critical questions. They alone will determine whether technology is considered a solution or a new problem.”

Dowden and Cook (2012)
How does it work?

Head Pointing

- Tracks movements of a reflective dot on a body part (usually head)
- Cameras may be internal or external to equipment
  - External
    - HeadMouse Extreme (Origin Instruments)
    - Tracker
    - AccuPoint (InvoTek)
    - SmartNav (Natural Point)
  - Internal

Eye Gaze

- Tracks eye movements using infrared light reflected off user’s retina
- Mounting and positioning is crucial
- Must calibrate to each person’s eyes
There may be subtle (or not-so-subtle) differences in either technology between manufacturers and settings.
Plan for the Session

Head Pointing
- Manual Boards (PODD)
- Dynavox devices
- Prentke Romich devices
- Talk to Me Technology devices
- Tobii devices

Eye Gaze
- Manual Boards (PODD)
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Dynavox

Head Pointing
- Maestro
- Vmax
- (M3)

Eye Gaze
- Vmax + Eye Max
- Maestro + Eye Max

Head Mouse or Tracker
Prentke Romich

Head Pointing

- ECO 2 – internal Tracker

Eye Gaze

- Accent 1200 w/ NuEye
- Accent 1000 w/ NuEye
- ECO2 w/ ECO point
Talk To Me Technologies

Head Pointing
- Wego
- Zuvo!
- HeadMouse or Tracker

Eye Gaze
- Intelligaze
Tobii ATI

Head Pointing

- I-12
- I-15

(without eyegaze)

Head Mouse or Tracker

Eye Gaze

- I-12
- I-15
Let’s Play!
Review – Ah Ha Moments
References

- http://www.dynavoxtech.com/products
- http://www.orin.com/access/headmouse/
- https://store.prentrom.com/
- http://www.talktometechnologies.com
- http://www.tobii.com
- http://www.mayer-johnson.com/podd?gclid=CIPGnOCJtr0CFYdFMgodCEoAIQ (PODD)
- http://mn.gov/star/loan.htm (statewide lending libraries)
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