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ASSESSMENT:
PREPARING FOR THE ATP EXAM

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Access to Independence

What we will be covering:

- Assessment
  - Importance
  - Components
  - Team members
  - Assistive Technology Service Models
    - HAAT model
  - Outcomes

The ATP Certification

- The Assistive Technology Professional (ATP) certification is offered through the Rehabilitation Engineering and Assistive Technology Society of North America (RESNA)
- This demonstrates a basic level of competence in the practice area of Assistive Technology
  - Over 4000 people hold the ATP certification
- This series of courses will include information to prepare the candidate for this examination

RESNA Rehabilitation Engineering and Assistive Technology Society of North America

The ATP Certification

- The candidate must fulfill specific pre-requisites before taking the examination
- For Occupational Therapy Practitioners with a Bachelor's or Master's degree, 1000 hours of work experience is required over 6 years.
- For further information:
  - http://www.resna.org/get-certified/exam-eligibility-requirements

ATP RESNA CERTIFIED ASSISTIVE TECHNOLOGY PROFESSIONAL

continuED™

Importance

- Why is Assessment important?
- As Occupational Therapists, we know that assessment is important in any practice area
- Assessment identifies client specific goals, needs and parameters and then matches these to appropriate solutions
- Rushing or skipping an assessment is likely to lead to poor outcomes

Components

- Gather information
- Analyze information
- Identify goals and desired outcomes
- Define parameters that need to be met
- Problem solve potential interventions/solutions
- Make final recommendations

Assessment

Team Members

- Assistive Technology (AT) assessment often involves multiple team members
- This varies with the type of AT evaluation

Team Members

- Wheelchair Seating and Mobility
- Team members may include:
  - Clinician
  - Complex Rehab Technology (CRT) supplier
  - Manufacturer representative

Team Members

- Augmentative Communication
- Team members may include:
  - Occupational Therapist
  - Speech Language Pathologist
  - Manufacturer representative

Team Members

- Computer and/or Tablet Access and Use
- Team members may include:
  - Occupational Therapist
  - Speech Language Pathologist
  - Ergonomic specialist
  - Rehabilitation Engineer
  - Manufacturer representative

Team Members

- Electronic Aids to Daily Living
- Team members may include:
  - Occupational Therapist
  - Home modifications specialist
  - Rehabilitation Engineer
  - Manufacturer representative

Team Members

- Vehicle Accessibility
- Team members may include:
  - Occupational Therapist
  - Vehicle Modifications specialist
  - Manufacturer representative

Team Members

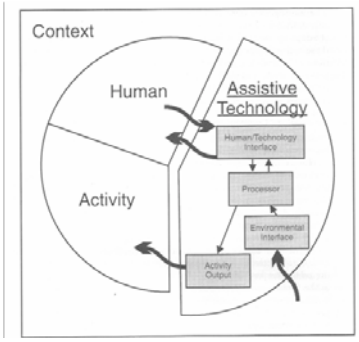
- Home Accessibility
- Team members may include:
  - Occupational Therapist
  - Home modifications specialist
  - Contractor (preferably specializing in home modifications for people with disabilities)

Assistive Technology Service Models

- Human, Activity, Assistive Technology (HAAT)
  - Al Cook and Jan Polgar
- Student, Environment, Task and Tools (SETT)
  - Joy Zabala
- Matching Person and Technology
  - Marcia J. Scherer
- Education Tech Points text
  - Penny Reed and Gayl Bowser

The HAAT Model

- Much of the ATP certification exam is based on the HAAT Model
- It is important to remember the terminology used
- Some of this terminology may not be intuitive
  - Engineer bias
  - Canadian bias

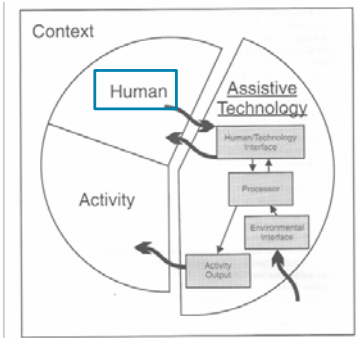


The HAAT Model

- Components:
  - The Human
  - The Activity
  - The Assistive Technology
  - The Context
- Components are considered individually and with each other to consider, design, select, implement and evaluate appropriate AT

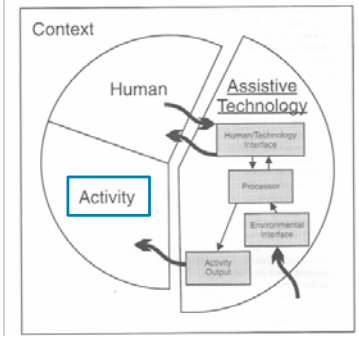
The HAAT Model

- Components:
  - **The Human**
    - The skills and abilities of the person with a disability
      - Physical
      - Cognitive
      - Affective



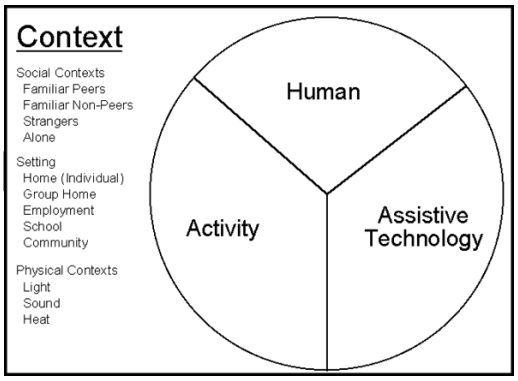
The HAAT Model

- Components:
  - **The Activity**
    - Set of tasks to be performed by the person with a disability
      - Self Care
        - Daily living
      - Productivity
        - Work and productive activities
      - Leisure
        - Play and leisure activity



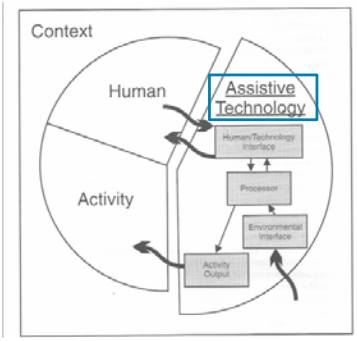
The HAAT Model

- Components:
  - **The Context**
    - The setting or social, cultural and physical contexts that surround the environment in which the activity must be completed



The HAAT Model

- Components:
  - **The Assistive Technology (extrinsic enablers)**
    - Devices or strategies used to bridge the gap between the person's abilities and the demands of the environment
      - The Human Technology Interface (HTI)
      - Processor
      - Output
      - Environmental Interface/Physical Construction



The Assistive Technology

- Human/Technology Interface
  - More terminology! Hang in there!
  - Input device or control interface
  - Selection (or symbol set)
  - Display layout/arrangement
  - Selection method

Human Technology Interface

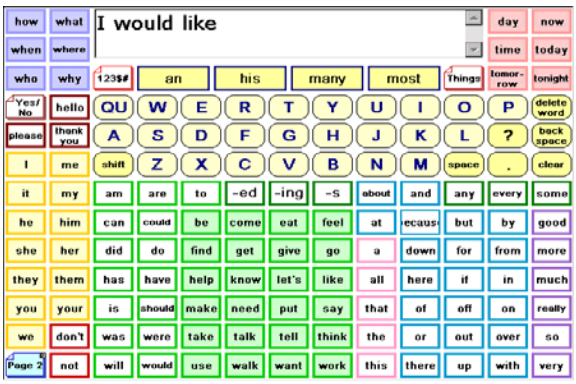
- "Input Device" or "Control Interface" = Access Method
  - Direct
    - Finger to display
    - Pointer
    - Eye Gaze
  - Switch
    - Single or dual switch
  - Joystick
  - Mouse

Human Technology Interface

- "Selection Set" or "Symbol Set"
- Example: Augmentative Communication
- Everything a person wants to say must be **represented on the display**
  - Letters, other individual characters (like a computer keyboard)
  - Words, sentences and paragraphs
  - Symbols that represent vocabulary choices
    - Objects
    - Pictures
    - Other symbol sets

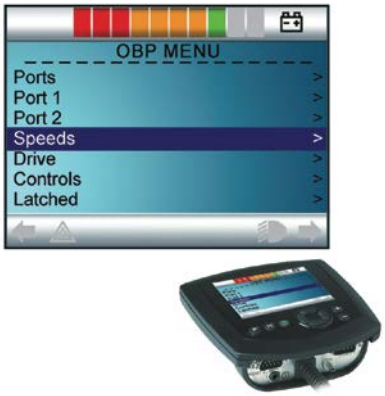
Selection Set

- Here are some examples:
  - This selection set uses individual characters and entire words for communication



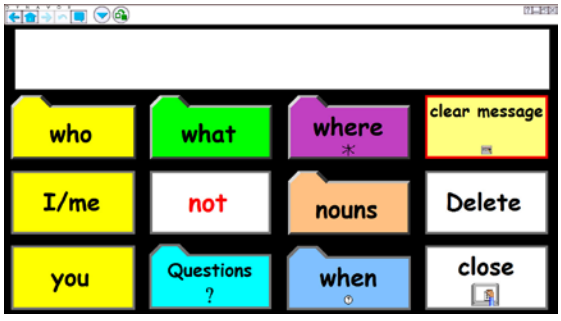
Selection Set

- A selection set on a power wheelchair display may represent various function options



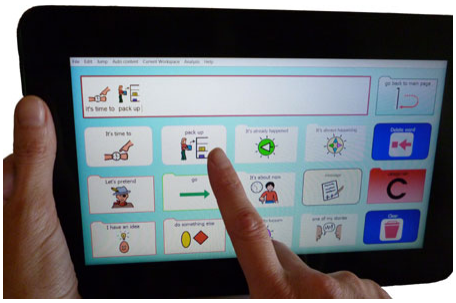
Display Layout/Arrangement

- The Selection Set can be **arranged** specifically to meet the client's needs
  - For example, more frequently used vocabulary may be placed in the upper left corner for switch users, as this is where the scan begins
  - Another example, vocabulary is often sorted by category. The "main page" may include choices such as Food, People, Greetings and each of those choices would then open another "page" of vocabulary under that category



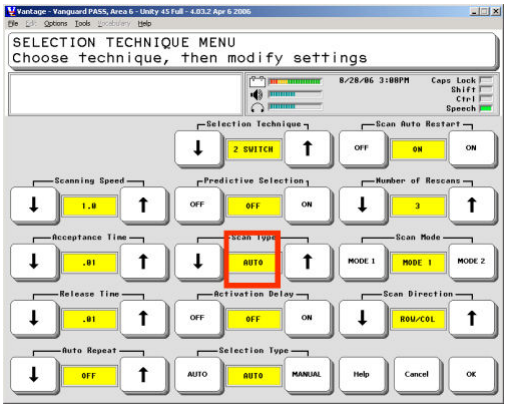
Selection Method

- This refers to **specific strategies** used for a specific access method
- Direct
  - Programming is available to change features such as acceptance rate, activate on touch, or activate on release



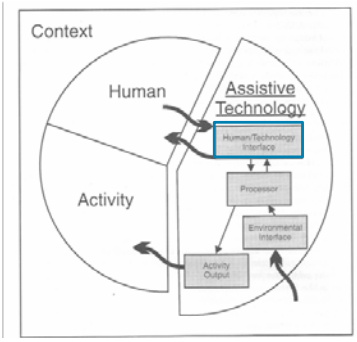
Selection Method

- This refers to specific strategies used for a specific access method
- Switch
  - Programming is available to change features such as the type of scan, speed of scan, scanning pattern
    - Types of scan include automatic (most common), step (used with 2 switch access) and inverse



Let's review

- Feeling confused? No worries
- HAAT Model
  - Assistive Technology
    - Human Technology Interface
      - Input Device/Control Interface
      - Selection Set
      - Display Layout
      - Selection Method



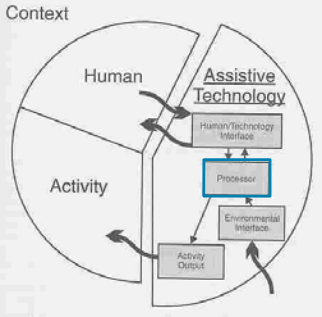
Let's review

- Input Device/Control Interface = access method
  - i.e. switch

- Selection Set
  - The symbols used to represent choices
- Display Layout
  - How the symbols are arranged to maximize efficiency
- Selection Method
  - Strategies used for individual access methods to maximize efficiency

Back to the HAAT Model

- Ok, we covered the Human Technology Interface as it pertains to AAC
- Next is the Processor



Processor

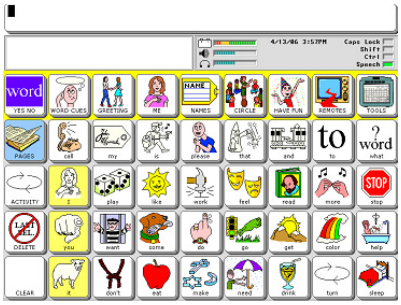
- The Processor in the context of Assistive Technology refers to additional strategies to improve efficiency

Processor

- Encoding Techniques
- Rate Enhancement
- Vocabulary Expansion
- Levels

Processor

- Encoding Techniques
- We already discussed the Selection or Symbol Set
- Some of these Selection Sets use encoding techniques to provide access to a large amount of vocabulary from one primary set of symbols (semantic encoding)



Processor

- Symbols are combined to form different words
  - i.e. Selecting the Apple and then the Sun to choose “Breakfast”
  - i.e. Selecting the Apple and then the Rainbow to choose “Red”

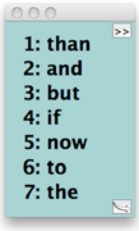
Processor

- Rate Enhancement
- Strategies to increase speed and efficiency in communication
  - Commonly used in AAC, Computer and Tablet applications
  - Word prediction
  - Word completion
  - Abbreviation Expansion

Word Prediction

- Word prediction guesses the next word you want to type or say

This is easier



Word Completion

- Word Completion guesses what you are currently typing
- In this case, the user can choose the number of the selection they want, saving extra keystrokes, switch activations, etc.

This is easier than it l

Abbreviation Expansion

- Abbreviation Expansion automatically “expands” programmed abbreviations
- ASAP = As soon as possible
- Important to use abbreviations that don’t begin common words

Processor

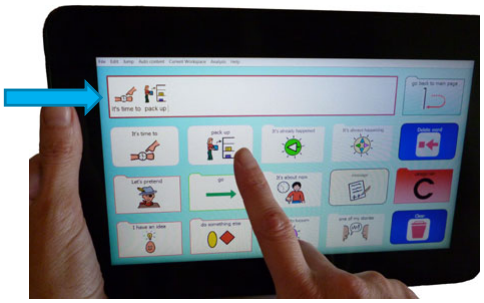
- Levels
- Some older AAC and EADL devices used static levels, meaning that the client was limited to what was on the display or someone else had to physically change the display

Processor

- Levels
- Most systems use a dynamic display that automatically changes what is displayed based on the last selection
  - AAC
  - PWC display
  - EADL display

Output

- Visual
  - AAC - often a “message bar” for the listener or communication partner to read if the message was not heard or heard in full
  - EADLs – display may show last selected action



Output

- Auditory
  - The client can choose to “speak” the message only after it is complete, rather than as composed
  - AT device may provide auditory feedback after an action is selected

Output

- Coded
  - AAC
    - This refers to when a message from the AAC device is sent to another device, such as a computer
    - This is usually wireless
    - Many AAC devices are computer based and so do not need to send a signal to a separate computer

Physical Construction

- Packaging
  - Dedicated
  - Computer based
  - Tablet based
  - Interfacing

Dedicated

- Dedicated AAC devices are specifically for communication
- Dedicated EADL devices
- More battery life
- Often more durable

Computer Based

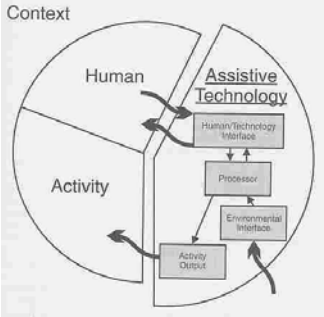
- Computer based AAC devices may look like a dedicated device, but allow the client to access computer features, as well
- Some funding sources require these functions to be “locked out”

Tablet Based

- Either an AAC App on a standard tablet or a specialized tablet
- Specialized tablets often offer more access options, better communication packages and boost auditory output
- Can get funding approval for the second type

Back to the HAAT Model

- Human/Technology Interface
  - Input Device (i.e. switch)
  - Selection Set (i.e. letters)
  - Display Layout (i.e. QWERTY)
  - Selection Method (scanning)
- Processor
  - Strategies to improve efficiency (i.e. word prediction)
- Output
  - Visual, auditory or coded
- Physical Construction
  - Packaging (i.e. dedicated)
  - Mountability



Outcomes

- Outcomes are an important component of Assessment
- Outcome measures are a means of determining if goals have been met

Outcomes

- Outcomes can seem overwhelming at times
- Outcome measurement does not have to be complex, though a variety of tools are available
- Determine client and team goals
- At a pre-determined future time, assess if that goal was met

Outcomes

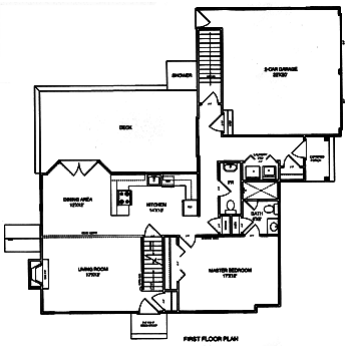
- Example:
- Brady is being evaluated for a power wheelchair
- His goal is to be able to drive the power wheelchair within his home
- An Outcome may be:
  - "Brady will be able to drive a power wheelchair"

Outcomes

- But the Outcome needs to be measurable with:
  - Desired end result
  - Qualifiers
    - Time, accuracy
  - Acceptance level
    - Standard, passing grade

Outcomes

- So, instead of:
  - "Brady will be able to drive a power wheelchair"
- The measure could be:
  - "Brady will be able to drive a power wheelchair from his bedroom to the family room within 10 minutes and not contacting the wall more than one time."



Outcomes

- It is important to remember that the Outcome isn't a test that must be passed in order to recommend AT devices
- Outcomes are a means to determine if the intervention is successful
- If the client has not achieved the Outcome, then further intervention may be required

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Resources

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Thank you!

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