AAC Assessment: Merging Personal and Clinical Evidence To Support Quality Outcomes

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Handout and Resources

https://sites.google.com/site/aacevaluation/

AAC Evaluation

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My name is Libby Rush. I am a retired speech-language pathologist from Durham, NC. I am speaking today on augmentative and alternative communication evaluation in children and adults with complex communication needs. I have no nonfinancial disclosure.
My name is Celeste Helling. I am a speech-language pathologist with the North Carolina Assistive Technology Program in Charlotte, NC. I am speaking today on augmentative and alternative communication evaluation in children and adults with complex communication needs. I am the developer of the iOS app AAC Evaluation Genie. I do benefit financially from the sale of the app through the iTunes App Store. I have no nonfinancial disclosure.
Session Agenda

• Examine components of effective assessment for individuals with developmental or acquired disabilities
• Discuss evidence based practices supporting AAC assessment outcomes
• Identify resources and tools to assist in the evaluation process
“Communication for people using AAC devices must be more than just functional. It must be built on language”.

Gail Van Tatenhove

http://www.victoriaadvocate.com
Achieving Success In AAC

AAC Language-based Model for Assessment and Intervention
AAC Institute
Goal of AAC Assessment

To facilitate the most effective communication possible across a variety of communication environments, situations or frameworks.
Thoughts On Evaluation

Focus of traditional speech/language evaluation

– Describing the nature and extent of the communication disability

– Estimating prognosis

– Designing an initial framework for intervention
Thoughts On Evaluation

Focus of AAC Assessment

– Assessment assumes:
  • AAC techniques are needed as temporary supports during recovery.
  • Communication is chronic and that natural language is not likely to occur.

– Assessment emphasizes designing an AAC system that will provide for the highest level of generative communication that can be achieved.

– Assessment considerations must include AAC tools, strategies and techniques to manage current communication needs, as well as anticipated future communication needs.
Evidence Based Practice (EBP) is a decision making process

- Focus on developing a well-built question
- Selecting evidence sources
- Examining and synthesizing the evidence
- Applying the evidence
AAC Assessment
Evidence Based Practices

Evidenced Based Decision-Making Includes:

- Clinician’s expertise
- Consumer’s values and preferences
- Current research evidence
AAC Assessment
Evidence Based Practices

EBP Requires Three Types of Information

- Knowledge about the client
- Knowledge about best practices
- Knowledge about devices, technology and systems
AAC Assessment Evidence Based Practices

Involves assessing the individual, their communication partners & environment to identify

- Individual’s communication needs or goals
- The person’s strengths and abilities
- Possible barriers preventing the individual from achieving his/her full communication potential
- The aids and adaptations needed to accomplish the individual’s goals given his/her strengths and abilities, and circumstances

EVALUATE FOR TODAY AND TOMORROW
AAC Assessment Models

- Candidacy Model
- Communication Needs Model
- Participation Model
AAC Assessment Models: Candidacy Model

- Assessment of an individual to see if they are a "candidate" or "eligible" for the use of an AAC system.
- Candidates for AAC must possess certain prerequisites.
  - Chronic expressive communication disorders
  - Adequate cognitive capabilities
  - Adequate linguistic abilities
- Outdated model of both assessment and intervention
AAC Assessment Models: Communication Needs Model

• Guideline based on a person's communication needs and capabilities

• Document the communication needs of an individual

• Determine how many of these needs are met through current communication techniques (i.e., pointing, head nods, etc.)

• Reduce the number of unmet communication needs through systematic AAC interventions
AAC Assessment Models: Participation Model

- Assessment is based on functional participation requirements of peers without disabilities of the same chronological age as person who requires AAC strategies.
- Identify opportunity and access barriers that may exist.
- Design AAC interventions based on functional participation of the individual with communication disorders.
### AAC Assessment Models: Participation Model

**Person's Name:** __________________________  **Date:** __________________________  **Completed By:** __________________________

**Setting and activity:** __________________________  **Goal of activity:** __________________________

<table>
<thead>
<tr>
<th>Critical steps to meeting the activity goal</th>
<th>Level of Independence (P: peer; CCN: person with CCN)</th>
<th>Opportunity barriers</th>
<th>Access barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Requires verbal assistance</td>
<td>Policy</td>
<td>Physical/motor</td>
</tr>
<tr>
<td>Independent with setup</td>
<td>Requires physical assistance</td>
<td>Practice</td>
<td>Cognitive</td>
</tr>
<tr>
<td>Requires verbal assistance</td>
<td></td>
<td>Knowledge</td>
<td>Literacy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skill</td>
<td>Visual/Auditory</td>
</tr>
</tbody>
</table>

1.  
2.  
3.  
4.

Participation Inventory. (Source: Blackstein-Adler, 2003.) (Key: CCN, complex communication needs)
### AAC Assessment Models: Participation Model

<table>
<thead>
<tr>
<th>Activity</th>
<th>How do peers participate?</th>
<th>How does the child with CCN participate?</th>
<th>Intervention Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music (Group)</td>
<td>Choose songs, sing repetitive parts of songs, perform hand or body movements to songs</td>
<td>Does not choose or sing, does not put on record, makes hand and body movements with aide's assistance, mostly sits and watches/listens.</td>
<td>Provide songs that child can turn on with a switch to sing along, provide picture symbols representing songs so child can choose, continue to imitate hand/body movements with aide.</td>
</tr>
</tbody>
</table>
Components of AAC Assessment

• Developing a language representation model
• Identifying communication needs/barriers
• Evaluating/determining current communication methods and strengths
• Inventorying past experiences using AAC symbols, strategies, boards, or devices
• Assessing environmental and communication partners factors
• Conducting Speech Generating Device (SGD) trials and feature match
The assessment process should result in an AAC recommendation that will provide the person with complex communication needs with sufficient language to develop linguistic, operational, social, and strategic competencies*. This expected outcome will guide the assessment process. Thus assessment procedures must address linguistic, operational, social and strategic skills.

* J. Light, 1989
Assessing Linguistic Competence

• This involves gathering the information needed to be able to make judgments about how a person with CCN is able to think about words, the meanings of words, and word relationships.

• It’s important to think about the language skills of a person with CCN in a framework of how language develops.
Interactional Model Of Language Development

• Bloom and Lahey divide language into three separate but overlapping components to illustrate how the key language skills interrelate.

• Speech and language disorders result if one or more area is not well developed or disconnected.

• Seems to be a good match for describing the language skill, capabilities, and disorders of persons who require AAC.
Interactional Model Of Language Development

• Content: Semantic Skills
  – Understanding the meanings of words and word classes and be able to use these words to create what we want to say.
  – Using words meaningfully to get the message across.
Interactional Model Of Language Development

• Form: Language Structure
  – Syntax and grammar
  – Morphology
  – Speech articulation and phonology
  – The ability to use sentences to say what we want to say
Interactional Model Of Language Development

• Use: Pragmatic Aspects
  – Using language for different purposes (comment, request, question)
  – Follow conversational rules (take turns, introduce/maintain topics, rephrase sentences, maintain appropriate physical distance, facial expressions and eye contact)
Interactional Model Of Language Development

• Language & communication development occurs along predictable stages of acquisition for typically developing children
  – Stage 1: Single Word Utterances
  – Stage 2: Emerging Semantic-Syntactic Relations
  – Stage 3: Further Semantic-Syntactic Development
Interactional Model Of Language Development

- This model does not consider factors prevalent in persons with complex communication needs:
  - Attention, Memory, Recall
  - Physical Capabilities & Dyspraxia
  - Motivation
  - Learning Style
  - Comprehension
  - Behavioral Overlay
  - Participation Patterns
  - Sensory Impairment(s)
Brown’s Stages of Development and Grammar

- Brown's Stages are commonly used to guide both AAC assessment and intervention
- Direct the language representation model for an AAC user
- Provides teams with a framework to focus on short and long term goals of AAC prescription and intervention
- Naturally supports the full range of pragmatic and semantic relations that can be expected at each of the stage
Limitations In AAC

- Language acquisition theories were developed to account for language learning under typical circumstances.
- The language-learning scenario for a child needing augmentative and alternative communication (AAC) is different from the typical situation in several key ways:
  - Reduced means of expressing language and of initiating and controlling interactions.
  - Reduced opportunities for exploring the world and for acquiring knowledge.
Limitations In AAC

• Even after an AAC system is implemented, the language-learning situation remains highly atypical
  – Intervention team must provide the AAC system content.
  – Decreased volume and rate of language production
  – Less opportunities to practice communication using the AAC system
  – There is a mismatch between the modality of language input (natural speech) and language output (AAC symbols, synthesized speech)
Implications In AAC

• Part of the assessment process is evaluating the person's prognosis for further cognitive-communication development

• Explicitly tied to clinician expertise
  – Recall and retrieval of vocabulary and newly learned symbols
  – Parts of speech recognition and usage
  – Responsiveness to expectant delay strategies
  – Responsiveness to aided language stimulation & SGD modeling
Implications In AAC

• A single-word vocabulary base will provide the AAC user with the opportunity to practice with words in a manner similar to more typically developing individuals.

• Children who use AAC devices need to be given the opportunity to “play with words” in order to develop organizational skills for word retrieval and practice putting words together to make sentences.
Implications In AAC

- It’s tempting to use prestored sentences that can be used to easily represent specific communication contexts, however they do not encourage word practice.
- Providing word practice decreases the risk of word storage and organization difficulties.
- Word practice provides the opportunity to use words in a variety of different syntactical positions to support reading, word retrieval and cognitive processing skill.
Assessing Operational Competence

• Involves the technical skills required to operate the AAC system

• Goal is to have zero cognitive overlay
  – Operational skills should be automatic

• Access Methods
  – Touch Access
  – Eye Control
  – Headpointing
  – Scanning Methods
Assessing Operational Competence

• SGD Interface
  – Page Navigation
  – Speech Functions
  – Clear Display,
  – SGD Programming
• Ability to operate specific device features
  – Power on/off
  – Volume Control
  – Environmental Controls
  – Computer Access Interface
Assessing Social Competence

- Knowledge, judgment, and skill in the social rules of communication.
  - Discourse strategies (initiating, maintaining, and terminating interactions, turn taking)
  - Information transfer, expressing wants & needs, social closeness
  - Specific communicative functions (protest, negate, clarify, questions etc.)

- Social Competency skills are context dependent and evaluated in terms of both their appropriateness and effectiveness.
Assessing Strategic Competence

• Compensatory strategies an AAC user adopts in order to allow them to communicate effectively if their AAC system is not adequate or available to meet the communication need.
  – Special messages
    • “Ask me a yes no question”
    • “I am using a special computer to talk to you. Please be patient”
  – Light tech back up board
  – Turning off speech to communicate in quiet environments (church)
Acquired Communication Disabilities

- AAC assessment and intervention for persons with acquired communication disabilities can be very complex.
- It is critical that the SLP understands how the communication disability has affected or will affect the patient’s life roles and participation patterns.
- Multimodal communication strategies are often required.
- Interventionists have to develop the insight to look at both assistive technology and partner supports as tools for maximizing communication abilities.
- There is a very real patient / family expectation that technology will alleviate the disability.
Acquired Communication Disabilities: Physical Conditions

- Amyotrophic Lateral Sclerosis (ALS), Multiple Sclerosis (MS), Parkinson’s Disease (PD), Guillan-Barre Syndrome (GBS), Brainstem Stroke

- Important to understand the nature of the communication disorder, the disease process itself, and what life roles / participation patterns are affected

- Include communication partners in both assessment of communication needs and intervention supports.

- Tailor AAC interventions towards alleviating barriers to participation.

- Written communication can be just as important to the patient as speech output.
Acquired Communication Disabilities: Aphasia & Apraxia of Speech

- Complete comprehensive aphasia battery (Western Aphasia Battery), including all relevant modalities (speech, gestures, signs, drawing, picture symbols).
- Include communication partners in both assessment of communication needs and intervention supports.
- Determine level of communication using AAC supports
  - Independent AAC communicator
  - Partner dependent AAC communicator
    - Emerging AAC Communicators
    - Contextual Choice AAC Communicators
    - Transitional AAC Communicators
- This assessment can be ongoing, as recovery occurs.
Acquired Communication Disabilities: Degenerative Cognitive & Linguistic

- Primary Progressive Aphasia, Dementia, Huntington’s Disease
- Result in a gradual deterioration of communication skills and effectiveness.
- AAC interventions are developed to enhance receptive and expressive communication effectiveness within the constraints of the disease.
- Early, mid and late stage interventions.
- Generally lite tech AAC supports including notebooks, schedules, wallets.
- Major emphasis on skilled communication partners.
Acquired Communication Disabilities: Traumatic Brain Injury

• Current goal of AAC team is to provide communication supports that enable TBI patients to better participate in rehab programs and communicate needs.

• Intervention focus throughout recovery is to provide a series of AAC systems to meet short term communication needs while continuing therapy to reestablish speech.

• Rancho Levels of Cognitive Functioning can be used to predict levels of functioning and design AAC interventions.
Assessment Instruments

• Limited selection of formalized and standardized AAC assessment tools
  – Must adapt and modify existing instruments
  – Must search for and find additional protocols, tools and techniques

• Must have expertise to interpret informal/nonstandardized assessment

• Insufficient availability of formal tests often results in unorganized and incomplete recording of what was tested, how it was tested and exact results

• Regardless of the type of assessment used, thorough documentation is necessary to communicate results across people and time
Sensory Assessment

• Locate an ophthalmologist or optometrist who is sensitive to testing those with disabilities

• Gather as much information as possible prior to assessing so that there are appropriate materials and supports for the evaluation

• When assessing always consider lighting, contrast, size of symbol/print, color, near & distance viewing, placement, number of items, and visual discrimination

• Employ guidelines and suggestions to address visual factors (Visual Considerations for Students Who Use AAC PA Dept. of Ed.)

• Utilize VI specialists when available
Access Assessment

• If seating and positioning is not adequate, assure that there are compensatory supports to continue the evaluation and when appropriate initiate a professional seating and positioning assessment.

• Employ checklists and guidelines to assure that there is a comprehensive assessment of functional movement patterns (Feature Matching Checklist Adaptive Switch Assessment by P. Justice)

• Utilize various sizes activation sites such as symbols/pictures, switches and input devices as well as potential mounting systems

• Utilize materials and manipulatives that are motivating to the individual
Assessment of Functional Communication for Individuals with Intellectual Disabilities

- A formalized, comprehensive review of the various functions of communication and the daily environments in which communication occurs.
- This assessment permits examination of the contextual and interactive aspects of communication not measured by standardized tools.
- It has been designed to examine communication at unintentional, early intentional and intentional levels.
- Information collected through observation, elicitation and reported behaviors.

*free

https://sites.google.com/site/aacevaluation/
Literacy Assessment Tools

- Concepts in Print
- Home Literacy Inventory
- The Bridge
- The Troll
- Adult-Child Interactive Reading Inventory
Literacy Assessment Tools

- Concepts in Print
  - Can purchase from www.heinemann.com or www.amazon.com
- Home Literacy Inventory
- The Bridge
- The Troll
- Adult-Child Interactive Reading Inventory
  - http://www.brookespublishing.com/
Assessing concepts of print refers to determining how well the individual understands how print is used.

Marie Clay
http://www.heinemann.com/
Concepts about Print Assessment:

Might Include

• Book orientation
• Which way to read (start)
• Front and back of book
• Beginning and ending of book
  • Title
  • Graphics have meaning
  • Left to right
• Words not graphics is way to read book
Concepts about Print

• Concepts about Print Assessment (demonstration)
  http://teams.lacoe.edu/documentation/classrooms/patti/k-1/teacher/assessment/print/conceptsqt.html

• Concepts of Print Assessment (example)
  http://web.archive.org/web/20040630063110/wilearns.state.wi.us/apps/PDF/print_prompts.pdf

• Concepts about Print Assessment (example & demonstration)
Concepts about Print

• Concepts of Print Assessment (Example & Demo)  http://www.mlpp-msl.net/assessments/conceptsofPrint/default.htm

• Concepts About Print Assessment Data (Example, Recording Forms and Implications for Teaching Concepts )  http://rwproject.tc.columbia.edu/assessments/reading

• Concepts of Print Assessment (Presentation on Marie Clay’s Assessment Tool  http://www.coe.uga.edu/epltt/impaticas/Concepts-of-Print.html
Home Literacy Inventory

- Designed to reflect current and past family interactions with print and print-related conversations
- Interventionists are guided to look at non-print activities, reading activities, writing activities and current reading and writing abilities.
- Information may be gathered over time either directly from the inventory completed by the family or on home visits by the intervention
The Bridge

Designed to Investigate
Literacy and Language Development

- **Foundations of Reading**
  (Book Knowledge/Appreciation/Print Awareness/Story Comprehension)
  
  How individual interacts with books
  How child interacts with symbols/print?
  How person engages in the act of reading?

- **Foundations of Writing**
  How individual draws/writes (Motor item)
  How child uses print? (Cognitive/linguistic item)
  How person writes his name? (Motor & Cognitive item)
  How individual interacts with/uses letters of the alphabet?
The Bridge

Designed to Investigate
Literacy and Language Development

Phonological/Phonemic Awareness
How individual demonstrates phonological awareness
How child demonstrates phonemic awareness

Oral Language
(related to literacy activities)
How individual interacts during literacy related activities
How child engages in story telling
The Troll
The Teacher Rating of Oral Language and Literacy

• Designed to track literacy and language development
• For use by classroom teachers or reading specialists
• No formal test training needed
• Administered for each child in app. 5 minutes
• Can be reused over year to track progress
Adult–Child Interactive Reading Inventory (ACIRI)
By Andrea DeBruin-Parecki

http://www.brookespublishing.com/

- Measures quality of interactions between adult and child during shared reading
- Assesses child and adult behaviors in these areas:
  - Enhancing Attention to Text
  - Promoting Interactive Reading
  - Supporting Comprehension, and Using Literacy Strategies
AAC Assessment Tools

- Frenchay Screening Tool for AAC
  - LORAC
    - Social Networks
    - Communication Partner Skills
  - Achieving Communication Independence
- Triple C – Checklist of Communication Competencies
- Augmentative & Alternative Communication Profile: A Continuum of Learning
  - Communication Matrix
- Inventory of Symbolic Functions
  - TASP
  - SETT
  - WATI
AAC Assessment Tools

- AAC Evaluation Genie
  - MCST – A
  - Aphasia Needs Assessment
- AAC-Aphasia Categories of Communicators Checklist
- Scanning/Visual Field/Print Size/Attention Screening Task
  - SGD’s
Frenchay Screening Tool for AAC

Assesses Patient's

- physical access
- visual acuity
- visual processing
- categorization
- identifying different types of symbols
- identifying different fonts and words
- word-picture matching
- symbol versus written word identification
- focusing thoughts

Basis for Referral for AAC Evaluation

Communication Aid Centre Bristol NHS England 0117 3403946

LORAC

• Part I
  – Materials and hands-on tasks to assess an individual’s Level of Representation
  – Assist you in determining the type of symbols an individual can use to both obtain information and successfully communicate wants and needs independently

• Part II
  – Assess and track an individual’s skill in recognizing common attributes fundamental to basic life activities.
  – Targeted tasks support developing functional, meaningful activities in the classroom, at home and in the workplace.

http://www.brittenyasherconsulting.com/
Social Networks

- Written by Sarah Blackstone and Mary Hunt-Berg, available from Attainment
- Assessment and intervention planning tool including manual, inventory and DVD
- Enables collection of information from individuals, their families, and involved practitioners, about their communication partners and current modes of expression to assist in guiding and refining intervention
- Based on principles of functional goal setting and person centered planning

http://www.attainmentcompany.com/
Communication Partner Skills

- Draft of checklist to collect information about communication partners and communication environment
- Utilizes observation, direct inquiry or reported information

*free

https://sites.google.com/site/aacevaluation/
Achieving Communication Independence
by Yvonne Gillette

- Designed for use with individuals with complex communication needs of all ages.
- Assess the environment, including settings, opportunities, and communication partners.
- Assess communication skills and write messages, design displays, and select partners.
- Implement your plan and report on progress. Includes assessments, inventory forms, guides, and detailed case studies.
- PDF and customizable Microsoft Word files on CD for personalizing and sharing.

http://www.attainmentcompany.com/achieving-communication-competence
The Triple C
Checklist of Communication Competencies
by Karen Bloomberg, Denise West, Hilary Johnson & Teresa Iacono

- Designed for use with adolescents or adults with little or no speech
- Assesses early functional communication skills
  - Unintentional passive communication (UP)
  - Unintentional active communication (UA)
  - Intentional informal communication (II)
  - Basic symbolic communication (SB)
  - Established symbolic communication (SE)
- Can be used by untrained communication partner though it is recommended that a communication specialist be part of confirming the final results.

Augmentative & Alternative Communication Profile A Continuum of Learning

By Tracy M. Kovach, Ph.D., CCC-SLP

- Developed for children using speech generating devices and can be used for adults who do not have acquired communication disorders and use AAC
- Contains four Areas of Learning (Operational, Linguistic, Social and Strategic) adapted from of J. Light [1989]).
- Each area assesses skills through five ability-based levels called Skill Set Levels.
- Measures subjective, functional skills.

Communication Matrix

- Communication Matrix Communication Assessment for Parents & Professionals
- Assessment protocol for individuals of all ages who function at the earliest stages of communication
- Evaluates 7 levels of communication from pre intentional to symbolic language
- Nine categories of communication behavior

*free at:
www.communicationmatrix.org

print version (English & Spanish) for sale:
www.designtolearn.com
Draft of tool designed for use with children or adults

Determine individual’s potential for using symbolic communication,

Identify the type of symbol set that meets the strengths/weaknesses of individual

Ascertain the possible size, number and position of symbols.

Examines word knowledge, stimulability for learning symbols skills in categorization of concepts.

Addresses objects, cut out photos of the objects, photographs, and graphic symbols

based on core vocabulary for children and for AAC vocabulary used by adults and clinical experience of the authors

*free

https://sites.google.com/site/aacevaluation/
Test of Aided-Communication Symbol Performance (TASP)

- Symbol size and number
- Grammatical encoding
- Categorization
- Syntactic performance
- Establishes basal & ceiling for each subtest
  - Results may help determine AAC intervention strategies and goals.
  - Provides starting point for designing communication boards or selecting a page for an AAC device.

http://www.mayer-johnson.com/tasp
Student, Environment, Task, and Tool Framework (SETT)

The Student
Abilities and Current Communication Needs

The ENVIRONMENT
Available Supports and Tools

The TASKS
The Student Needs to Perform in Each Environment

The TOOLS
Assistive Devices and / or Techniques Needed for the Student to be Successful

*free

http://www.joyzabala.com/Home.php
WATI adapted the SETT framework across all AT domains

- Assessing students' needs for assistive technology (ASNAT) 5th edition
- 16 chapters; chapter 3 AT for communication
- Each chapter includes a comprehensive assessment and intervention guide

*free

http://www.wati.org/content/supports/free/pdf/WATI%20Assessment.pdf
AAC Evaluation Genie

- Informal diagnostic tool for the iPad.
- Purpose is to evaluate the skill areas that relate specifically to the language representation methods commonly found on augmentative communication systems.
- AAC Evaluation Genie helps the evaluator build a framework for selecting appropriate AAC strategies and SGD’s for ongoing evaluation and / or device trial.
- Includes 14 subtests that can be administered with screening options available for each subtest.
- Generates comprehensive data.
# AAC Evaluation Genie Subtests

<table>
<thead>
<tr>
<th>Visual Identification</th>
<th>Word Association</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Discrimination</td>
<td>Category Inclusion</td>
</tr>
<tr>
<td>Noun Vocabulary</td>
<td>Category Exclusion</td>
</tr>
<tr>
<td>Function Vocabulary</td>
<td>Pixon Core Vocabulary</td>
</tr>
<tr>
<td>Verb Vocabulary</td>
<td>Unity Core Vocabulary</td>
</tr>
<tr>
<td>Category Recognition</td>
<td>Unity Icon Patterns</td>
</tr>
<tr>
<td></td>
<td>Picture Description</td>
</tr>
</tbody>
</table>
AAC Evaluation Genie
AAC Evaluation Genie
AAC Evaluation Genie
## AAC Evaluation Genie

### Name: Sue Smith

#### Visual Identification
- 5" Field of 2: 100%
- 4" Field of 3: 100%
- 3" Field of 4: 100%
- 3" Field of 8: 100%
- 2" Field of 4: 100%
- 2" Field of 8: 100%
- 2" Field of 15: 100%
- 1" Field of 15: 100%
- 1" Field of 32: 100%

#### Visual Discrimination
- 5" Field of 2: 100%
- 4" Field of 3: 100%
- 3" Field of 4: 100%
- 3" Field of 8: 100%
- 2" Field of 4: 100%
- 2" Field of 8: 100%
- 2" Field of 15: 100%
- 1" Field of 15: 100%
- 1" Field of 32: 100%

#### Vocabulary Knowledge
- Noun Vocabulary: 100%
- Function Vocabulary: 100%
- Verb Vocabulary: 100%
- Category Recognition: 100%
- Word Association: 100%
- Category Inclusion: 100%
- Category Exclusion: 100%
- Pixin Core Vocabulary: 100%
- Unity Core Vocabulary: 100%
- Unity Patterns: 100%
- Word Prediction: 100%

#### Picture Description Items
- She is drinking water
- She is reading a (the) book
- They are dancing
- He is riding a (the) bike
- She is sitting
- He is throwing the (a) ball
- He is walking
- He is playing
- She is eating (the) candy
- She is eating the apple
- He is drinking the juice
- They are jumping (playing)
- She is playing
- She is walking
- He is throwing the (a) ball

#### Picture Description Results
- She is drinking water
- She is reading a book
- They are dancing
- He is riding a bike
- She is sitting
- He is throwing the ball
- He is walking
- He is playing
- She is eating the candy
- She is eating the apple
- He is drinking juice
- They are jumping
- She is playing
- She is walking
- He is throwing a ball

### MLU (Words)
3.933333
Multimodal Communication Screening Task for Persons with Aphasia
by Joanne Lasker & Kathryn Garrett

- Uses pictures, words, sentences, letters, map, story sequences to answer situational questions, categorize and point referentially when telling a story
- Evaluates the patient’s ability to communicate with AAC strategies.

*free [http://aac.unl.edu/screen/score.pdf](http://aac.unl.edu/screen/score.pdf)
Aphasia Needs Assessment

by Joanne Lasker & Kathryn Garrett

- Interview format to identify communication needs
- Utilize with client or communication partner

Identify:
- Situational difficulties
- Topics vocabulary
- Most difficult communication skills
- Skills of communication partners
- Current strategies
- Reading materials
- Writing skills

*free
http://aac.unl.edu/screen/aphasianeeds.pdf
AAC-Aphasia Categories of Communicators Checklist

by Joanne Lasker & Kathryn Garrett

- Observation utilizing checklist of communication behaviors
- Includes skills and challenges
- Aids in identifying type of communicator

*free http://aac.unl.edu/screen/aphasiachecklist.pdf
Scanning/Visual Field/Print Size/Attention Screening Task
by Joanne Lasker & Kathryn Garrett

- Address possibility of visual field cut
- Consider hemianopia

*free
http://aac.unl.edu/screen/wordscan.pdf
Virtually all manufactures include some level of AAC assessment within their SGD’s.

Usually are very short screening protocols

Good choice to use as a screening measure to get a “snapshot” of language and access capabilities.
Evidence Based Practice Decision Making: Devices, Technology & Systems

• Approximately 1/3 Assistive Technology is abandoned

• Technology discontinuance results in
  – Lost revenues
  – Lost time in supporting and developing or rehabilitating language skills
  – Lost opportunity in establishing an effective communication system and resultant frustration for AAC users and their partners.

Evaluate For Today And Tomorrow
Evidence Based Practice Decision Making: Devices, Technology & Systems

• Technology is ever changing and it is critical that the practitioner knows where to obtain reliable and objective information about technologies, devices and aids.

• Vendors are usually the most knowledgeable about their products and offer loan programs for professional.

• The SLP role is to bring the clinical expertise regarding how the consumers current and future capabilities will be supported by a particular technology

• SLP must understand how the person’s language skills, needs and capabilities will match a particular SGD language system
Evidence Based Practice Decision Making: Devices, Technology & Systems

• Tech Act programs, lending libraries and demonstration centers provide expertise in device features and opportunities for device demonstration and trials

• The Internet, as well as traditional media, offers an array of information about devices
  – Practitioners, consumers and families utilize this resource and each brings a valuable set of information to the decision making process

• Online webinars and training are becoming more and more prevalent and accessible
Evidence Based Practice Decision Making: Knowledge About Best Practices

• When developing the EBP question (S) include a description of the direct stakeholder, his or her current and future environments, other relevant stakeholders, the problem to be solved, and the anticipated outcomes.

• When searching for evidence it is best to look in more than one place. AAC research is scattered across several disciplines and larger fields. A one-sided approach may result in crucial evidence being ignored.

• Seek out reviews first in order to save time and energy because someone else has already sought out studies, appraised them, and synthesized the content.
Evidence Based Practice Decision Making: Knowledge About Best Practices

• Critically evaluate reviews. Reviews vary widely in terms of quality.
• Evaluate original research studies using an appropriate hierarchy of evidence that is suitable to AAC.
• Determine the relevance of the evidence to your particular question. The more similarities, the more relevant the evidence.
• Keep in mind that evidence alone does not make decisions. Integrate the evidence with clinical expertise and relevant stakeholder perspectives.
Perceived Obstacles to Evidence Based Practice & Assessment

- Lack of standardized AAC assessment tools
- Few formalized assessment protocols specific to AAC
- Need to modify standardize cognitive, language and literacy tests
- Absence of formal tests often results in unorganized and incomplete recording of what was tested, how it was tested and exact results
- Few opportunities for learning how to perform quality assessment
- Person centered evaluations difficult at current reimbursement rates
Assessment Considerations

• Explore Consumer/Stakeholder Expectations
  – Know that many with acquired disorders expect that they will communicate as efficiently with a device as with speech (Beukelman & Ball, 2005)
  – Ask and observe how the individual and peers look at or participate in a variety of daily activities
  – Consider that only 54.1% reported that the assessment took into account all the environments in which equipment would be used (Sack, Simmons & Cress, 2004)
Assessment Considerations

• Maximizing Effectiveness and Efficiency of the Evaluative Process

• Utilize pre-evaluation questionnaires to gather information for evaluation and establish reason assessment was requested

• Obtain previous reports, evaluation and supplemental information

• Assessment processes will ideally involve more than one session and multiple environments
Assessment Considerations

- At the end of each session, attempt to talk with all participants and provide written feedback.
- Remember that thorough documentation is necessary to communicate results across people and time.
- The completion of an assessment is the initiation of the ongoing evaluation process.
Assessment Process

• Evaluate current communication skills and capabilities
• Estimate future cognitive communication growth.
• Identify goals for implementation and responses to intervention
• Conduct feature matching to identify SGD and Accessories
• Conduct adequate device trials
• Funding, treatment and follow-up
Assessment Components

• Sensory/Perceptual: Goal is to determine size, type, placement of symbols and identify language input and output options

• Access: Goal is to identify optimal seating & positioning and motor technique for access

• Linguistic: Goal is to identify AAC techniques & strategies & select types of symbols

(adapted from Beukelman & Mirenda, 2005)
AAC Feature Matching

- Predictive assessment that attempts to match:
  - The language representation and hardware features of AAC systems
  - The access methods of AAC systems
  - The feedback methods of an AAC system
  - To the current and future capabilities and needs of individuals with complex communication needs.
AAC Feature Matching

• How Does Feature Matching Fail The AAC User?
  – Focus is solely on current needs and abilities without considering anticipated future needs and capabilities.
  – AAC team overemphasizes (caught up) with device features.

• Fails to take into account the user’s preferences while negotiating a device recommendation that
AAC Feature Matching: Cognitive Considerations

- Attention
- Task focus
- Literacy level
- Symbol recognition
- Executive functions
- Memory impairment
- Language impairment
- Metalinguistic skills
AAC Feature Matching: Sensory Considerations

- Display size
- Magnification of icons, text
- Auditory scanning
- Tactile symbols
- Braille symbols
- Visual output
AAC Feature Matching: Physical Considerations

- **Direct selection**
  - Manual, head pointing, headpointing, eye gaze

- **Indirect selection**
  - Switch access site
  - Single switch vs. Switch array
  - Scanning pattern
  - Scanning / switch feedback
  - Interpreted eye gaze access / e-tran
  - Partner assisted scanning
  - Wheelchair / switch mount / walker attachment
  - SGD weight considerations for ambulatory user
AAC Feature Matching: Physical Considerations

• Hierarchy of switch access sites
  – Hands
  – Head/voice
  – Arms/elbow
  – Legs/knees
  – Feet

• Two or more input methods may use multiple sites for access
AAC Feature Matching: Additional Considerations

• Additional features that are highly desired (telephone, ECU, texting)

• External factors that influence feature matching process
  – Funding issues
  – Skilled provider
  – Motivation
  – Support
AAC Feature Matching:
Additional Considerations

- Consumer preferences
- Family / peer / support
- Educational support / needs
- Vocational support / needs
- Skill of communication partners
- Motivation to communicate
- Funding source requirements
- SGD battery capacity
- Intervention and follow-along support
- Will the SGD meet current and future needs?
AAC Feature Matching: Protocols

- Grid or worksheet based designed to synthesize assessment data to AAC device feature needs and identify possible devices for recommendation.

- Areas of assessment are translate to feature match guide for AAC
  - Motor Capabilities
  - Literacy Assessment
  - Positioning and Seating
  - Cognitive/Linguistic Capabilities
  - Sensory/Perceptual Assessment
References

• David Beukelman. Models of AAC Assessment and Intervention, 04/02/99 Retrieved from http://aac.unl.edu/drb/AAC_Assessment/index.htm
Thank You!