

An Introduction to AAC (Augmentative & Alternative Communication)

What is an AAC System?

- Speech & speech enhancement
- Standard AAC techniques
- Special AAC techniques (AAC Devices & Systems)

An AAC System (can be more than one item/strategy) Checklist:

- Provides full range of communication
- Compatible with all aspects of user's life
- Does not restrict communication partners
- Usable in all environments and positions
- Does not restrict topic or scope of communication
- Allows and fosters growth (flexible)

Types of AAC:

- Sign Language
- Picture Cards / Ring/ Bracelet
- Picture Exchange Process
- Language Boards/Wallets/Books
- Eye Gaze Frames/ LoTech Products
- LoTech Products operated by Switches with Signals/Buzzers
- Voice Output Communication Aids
- Computers with Communication Software
- Portable Tools with Communication Applications "apps"

AAC Terminology (Church & Glennen, 1992)

- No Tech, Low Tech, High Tech
- Aided vs Unaided
- Dedicated vs Non-dedicated
- Direct Selection vs Scanning

Who might need an AAC system?

Persons with...

- No-speech/no-vocalizations as a result of disability
- Little to no intelligible speech
- Impairment to vocal chords, vocal folds or to their larynx
- Decrease in volume due to degenerative disease
- Temporary non-speaking status as a result of accident/trauma

AAC Student Categorization (Walser & Reed, 2001)

- **Alternate language group**
 - Use little or no speech
 - Considerable language comprehension issues
- **Expressive language group**
 - Severe motor speech disorder
 - Language comprehension nearly/intact for CA
- **Supportive language group**
 - Moderate motor speech dysfunction
 - Language comprehension below CA level

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How do you choose an AAC system? - Process of AAC evaluation

1. Background information
2. Skill level information (motor, cognition, language, sensory)
3. Needs assessment in their environment
4. Feature matching
5. Trials in natural settings for comparison & contrast across environments
6. Decision making
7. Development of a training & implementation plan
8. Follow Up and Follow Along

The Participation Assessment Model (Beukelman & Mirenda)

1. Identify Participation Patterns and Needs

- Conduct activity/standards inventory
- Assess participation pattern of peers
- Assess participation of target student (see chart below)
- Identify participation barriers

ACADEMIC

- Competitive
- Active
- Involved
- None

REGULAR EDUCATION

- Full
- Selective
- None

SOCIAL

- Influential
- Active
- Involved
- None

INDEPENDENCE

- Complete
- With Setup
- Assisted

2. Assess Opportunity Barriers

- Policy
- Practice
- Attitude
- Knowledge
- Skill

3. Opportunity Interventions

4. Assess Access Barriers

- Natural Abilities
- Environmental Adaptations
- Utilization of Systems / Devices
 - Operational Requirements Profile
 - Constraints Profile
 - Capability Profile
 - Motor
 - Cognitive / Linguistic
 - Literacy
 - Sensory / Perceptual

5. Plan and Implement Interventions for Today and Tomorrow

- Provide Instruction
- Natural Contexts
- Specific Skills
- Partner and Facilitator Training

6. Evaluate Intervention Effectiveness: Is the Student participating at expected levels?

- No - why not? Go Back to Identify Participation Barriers
- Yes - Continue to follow up on student's needs
 - * remember to adjust and reevaluate as student's needs change

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The Technology - Features

Input = Human to Technology Interface (How the device is Activated)

- Assisted Keyboard
- On-Screen Keyboard
- Cursor Control-Pointer Systems
- Alternative Keyboards
- Voice Recognition
- Eye-Gaze
- Mind Control
- Switch
 - Direct Switch Selection
 - Two Switch Selection
 - Scanning (various modes)
 - Auditory Scanning
 - Morse Code

Processing = How Vocabulary (Message Set) is Stored & How It is Retrieved to Communicate & demonstrate Language Development

• **Message Set** (Whole message, Partial message, Single Words (Core & Fringe), Alphabet (Spelling, Orthography), Operational Functions

- **General core vocabulary**
 - Those words frequently used by many people.
 - including morphological forms.
- **Fringe or Activity vocabulary**
 - Those words used based upon the activity or location
- **Personal core vocabulary**
 - Those words frequently used by the individual, but not in common use by others.

Communicative Functions

- Language intent falls into a variety of categories, based on the function of the message.
- Functions are somewhat hierarchical.
- Demonstration of functions can present an indication of communication competency.

Types Communicative Functions (Rowland- Communication Matrix)

- Ways to **REFUSE** things that you don't want
 1. Express Discomfort
 2. Protest
 3. Refuse or Rejects
- Ways to **OBTAIN** things that you want
 1. Express Comfort
 2. Continues Action
 3. Obtains More of Something
 4. Request More Action
 5. Requests New Action
 6. Request More Object
 7. Makes Choices
 8. Requests New Object
 9. Requests Absent Object
- Ways to engage in **SOCIAL** interactions
 1. Express Interest in Other People
 2. Attracts Attention
 3. Request Attention
 4. Shows Affection
 5. Greets People
 6. Offers, Shares
 7. Direct Another's Attention
 8. Polite Social Forms
- Ways to provide or seek **INFORMATION**
 1. Answers Yes/No Questions
 2. Asks Questions
 3. Names Things/People
 4. Makes Comments

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Processing - Communication Symbol Systems

- Objects
- Miniatures
- Photographs
- Detailed Color Pictures
- Color Pictures
- Gray Scale
- Black/White Pictures
- Line Drawings
- Sign Language Based Symbols
- Bliss

Additional Features of AAC systems

- Type of Symbol, Ethnic Representation, Location of Symbol, Symbol Organization, Message Cue

Processing - Single Key Retrieval Methods

- Whole Messages, Partial Messages/Phrases, Single Words

Processing - Multiple Key Retrieval Methods

Encoding

- Orthography
- Abbreviate Expansion
- Logical Letter Codes
- Number Codes
- Semantic Compaction
- Keylinking
- Morse Code

Branching

- Levels & Locations
- Dynamic Displays
- Pop-Ups
- Auditory Scans

Prediction

- Word Prediction
- Symbol Prediction

Selection Editing

- Repair Before Output
- Repair During Output
- Repair After Output
 - Incorrect information
 - Communication repair
- Message not available

AAC Output Issues

- Synthesized (text to speech)
- Type of Synthesizer
- Digitized (recorded speech & sound)
- Amplification
- Tone
- Ethnic / Language
- Integration with other A.T

AAC Training & Implementation – Linked to Assessment

- **Roles & Responsibilities**
- **Action Plan for Implementation** across General & Specific Communication Environments
- **Strategies for AAC Competence** (*Light & Binger*)
 1. Linguistic: storage & retrieval of language for communication
 2. Operational: user & facilitator, automaticity
 3. Social: pragmatics
 4. Strategic: clarification, repair, redirect, pragmatics

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What do you need to do when you work with someone to use AAC?

- Vocabulary Selection
- Promoting Language Development
- Customization
- Training
- Integration into Environment
- Follow Up & Continue Support

The Basics of Environmental Communication Teaching

- Arranging the environment
- Selecting communication targets
- Responding to the child's initiations
- Reinforcing the child's communicative attempts

Environmental Arrangement Strategies

- interesting materials and activities
- materials in view, but out of reach
- materials used with which the child will need assistance
- small or inadequate amounts/portions provided
- sabotage
- something the child doesn't like is provided
- novel elements

Using Teaching Displays:

- mnemonic device for what to communicate
- visual "bridges" for transitions
- picture sequence chart for task performance
- classroom or individual schedules as cues

Transporting & Positioning AAC

- Built-in Carry Systems
- Carry Bag
- Table Mounts
- Wheelchair Mounting Systems
- Ambulatory Carts
- Bed Mounts