

**Integrating AAC
Through Content Standards**

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Language and Literacy in the Classroom

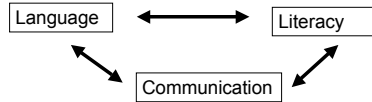
- Our Goal: Identifying appropriate literacy strategies and pairing them with motivating classroom activities that are rich with communication and language opportunities.
 - Bringing the SLP expertise into the classroom! (and out of the therapy setting)

Who?

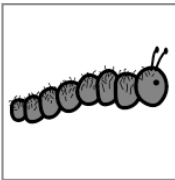
- Any student who is severely challenged in learning to read/write as the result of his/her disability.
 - Multiple disabilities (physical and cognitive)
 - Autism, Down's syndrome, cerebral palsy, etc.
 - Cognitive Disabilities
 - Severe Apraxia of speech

Guiding Principle

- Classroom literacy learning activities provide a sound foundation for learning language and communication for students with significant disabilities.



Definitions



Language: a system used to communicate, comprised of a set of symbols and a set of rules (or grammar)

Literacy: reading and writing at a level adequate for communication

Communication: a process by which information is exchanged between or among individuals

Guiding Principle

Basic Rights for Literacy

- All persons, regardless of the extent of their disabilities, have a right to use print.

Yoder, D., Erickson, K., and Koppenhaver, D. (1996)
Center for Literacy and Disabilities Studies

Guiding Principle

Everyone Communicates!

- All individuals are assumed to be communicating prior to direct intervention!
- Communication starts with interaction and the earliest behaviors of student--there are no prerequisites.

Levels of Expressive Communicators

- Emerging communicator
- Basic communicator
- Progressive communicator

– Forgoing the myth that a person has to have reached a certain level of communication intent before participating in literacy learning.

Based on Dowden, 1999

Emerging Communicator

- Student who does not yet have any reliable means of symbolic communication; usually communicates through **signaling** behaviors.
- **Goal:** *Increase reliability of communication forms*

What is a Signal?

- A behavior that elicits a reaction or action plan, where the form of the signal behavior is directly related to the activity it is associated with.
 - Body movement, eye movement, vocalization
- When a signal form is recognized and reinforced, it can be considered a **“differentiated response”** that is used for a specific communication purpose.


Stages of Early Communication Development

Spontaneous Behaviors
(typically 0-3 months)

- Reflexive or environmentally triggered actions
- Unintentional behaviors
- **Partner Perceived Communication**
 - We figure out what the student may be feeling or wanting from watching what they do, and then reinforce that behavior with action and language.

Training for Differentiated Responses

- Provide opportunities for interaction that will increase signaling behaviors.
- Engage the student in the activity. Purposefully pause from time to time and observe his/her behavior.
- Is the student aware when the activity stops?
Starts?

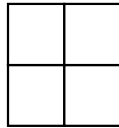


Guiding Principle

- Intervention requires increased opportunities for participation and communication
 - “Without participation, there is no one to talk to, nothing to talk about, and no reason to communicate.” (Beukelman and Mirenda, 1992)

Activity

- What 4 messages could be used throughout this story?



Voice Output

- Voice has power! A Big Mac or Step-by-Step can offer beginning voice message forms.



Big Mac from AbleNet. \$99
www.ablenetinc.com



Step by Step from AbleNet. \$159
www.ablenetinc.com

Stages of Early Communication Development

Intentional Behaviors
 (typically begins 4 – 8 months)

- Student behaviors directed toward object or activity with implicit purpose
- Communication is still highly Partner Perceived Communication
 - Student acts toward object or action and partner infers the type of communication.

Intentional Behaviors

- During this stage we want the student to attempt more and more of the behaviors that get responses from adults, and to signal something even if we don't ask first.
- Early functions:
 - Greeting
 - Protests
 - Request for attention or objects
 - More/all done
- Pause for student to take turns with objects or routines.

Establishing a Positive Indicator

- **When do you start teaching yes/no?**
 - Yes/ no tends to be a later-developing skill, since those words can have a wide variety of meanings and results.
 - Yes/no tends to reinforce passive responding rather than active functional communicating.
- What unaided mode could the student use to indicate, “**Yes, that’s the one I want.**”
 - Smile
 - Head shake
 - Eye blink
 - Vocalization (one that can be consistently read)

Language Forms at Emerging Communication Levels

more	stop
want	all done
want that	

Early Choice-making


- Involves indicating a preference from one or more alternatives, which may be presented by another.
- In early choice-making activities, the options presented should be of **equal value** to the student. This is often referred to as “errorless” choice-making...no response is incorrect.

Choice-Making Representational Modes

- Objects
- Photographs
- Line Drawing

– Typical recognition of pictures - 12 -18 months

Activity




Guiding Principle

- Some severely involved students may remain at early developmental levels. For those individuals, it is still critical to provide communication opportunities so that others have a reason to interact with them.

Voice Output Activity

- Expand messages with voice output to increase reasons for others to communicate with the student.
- Successive approximation - decrease prompts as the student demonstrate voluntary or intentional behaviors.



Basic Communicator

- Student has at least one strategy of symbolic communication that is reliable.
- **Goal:** *to expand current skills to new situations, new topics, or new partners*

Stages of Early Communication Development

Intentional Communication
(typically begins 9 – 12 months)

- Student directs behaviors toward adult with voice, gestures, or eye gaze
- Student initiates communication and often gets persistent to get desired result
- Student directs his/her behavior to adult with identifiable "message"
- Examples of intentional communication: intonational speech, babbling, point to object, point to self, give/show/take

Intentional Communication

- **Behavior Regulation** (request/protest)
- **Social Interaction** (wave to greet/farewell)
- **Joint Attention** (paying attention to the same thing at the same time)
- **Joint Reference** (sharing and noticing a particular aspect of an object, action, or even for the purpose of communicating about it)
- **Interactive routines** (repeated activities)
- **Turn-talking** (alternating/copying behaviors)

Stages of Early Communication Development

Symbolic Communication

- (typically begins 12 months +)
 - Student knows that particular words or actions can convey different messages and that ideas can be expressed in symbols. Uses specific gestures, signs, or pictures to represent his/her ideas.
 - Student uses words, symbols, representational play or gestures to direct partner
 - Student can now understand that a picture can stand for something else.

Communicative Functions:

single word level (1 - 2 year age)

- Greet *hi, bye*
- Recurrence *more*
- Naming/labeling *doggie, milk, shoe*
- Existence *uh oh, that, look*
- Non Existence *no, gone*
- Rejection *no, stop*
- Comments *dirty, big*
- Directives *go, stop, help*

Language Forms:

single word level

- Agent *mommy, daddy, me*
- Object *mommy, daddy, baby*
- Action *want, go, eat, drink*
- Possessive *mine, daddy, mommy*

Communicative Functions:
Two word utterance level (2 year)

- Greet *hi + person, bye + person*
- Request Object or Action *want more, get + object*
- Request info *what's that, where go,*
- Recurrence *more + action/object, do again*
- Rejection *no like, no eat*
- Comment *like that, that mine*
- Directive *get that, help me*
- Associative *big, hot, pretty + word*

Language Forms:
Two word utterance level

- Agent-Action *me go, daddy play*
- Action-Object *get some, read book*
- Agent-Object *mommy book*
- Possessive *daddy coat, my cup*
- Locative *go outside, sit down*
- Attributes *red one, big one*

Language Forms:

- Single word level
- Two word utterance level (2 year)
- Typically developing children have an expressive vocabulary of close to 500 words by the time they reach 30 months and add 8 - 10 new words a week to that store over the following years.
 - Children using AAC often reach adolescence before reaching a comparable store.

Ingram, D. (1989) First Language Acquisition

Color Coding

- Pronouns/People - yellow
- Verbs - green
- Nouns - orange
- Describing blue
- Little words pink
- Places purple
- Social white

Aided Language Stimulation

- Building receptive language
- "Engineering the classroom"
- The communication partner points out key symbols on the child's communication display in conjunction with all ongoing verbal language being directed toward the child.

Goossen's Crain & Elder (1992)

Aided Language Stimulation

- "Natural Aided Language" (Cafiero, 1995)
 - Positive results with students with ASD
- Cues Effecting Single Prompt Compliance
 - 57/65 Students complied on 1st prompt with visual and other prompt
 - 40/65 students complied on 1st prompt with visual and verbal prompt
 - 8/65 students complied on 1st prompt with verbal prompt only

Aided Language Stimulation

- Building symbolic receptive skills
 - Recognizing symbols hold a message
 - Builds vocabulary
 - Provides a model for expressive communication
 - May serve as an expressive mode
- Bridge ALS boards with expressive communication modes

Picture Exchange (PECS)

- Initial stages, focus is on *initiating* a request.
- Symbol exchange is a method for expressing a message.
- Caution about staying too long on one communicative function (making request) and using only nouns

High Tech or Low Tech

- Voice output is Powerful!
- Low tech start - low tech backup - but don't ignore the high tech options
- Support high tech learning with low tech options
- Crystal ball predictions:
 - What communicative potential does this student have?

Guiding Principle

- Expect the Student to be a communicator
 - Teachers, parents, peers
- AAC intervention requires time to “listen”, time to model, time to teach
 - Pause and wait for responses to interaction. (Count to 10 before intervening again.)
 - Use the Student’s modes of communication yourself when interacting (pointing to objects, pictures; signing words)

Progressive Communicator


- Has enough expressive communication to participate in age-appropriate activities.
- **Goal:** *to increase strategies that make expressive skills useful and socially engaging in all situations that the child participates in.*

Vocabulary Selection

- Core Vocabulary
 - Majority of the words used in conversation
- Secondary Vocabulary
 - Used with core to expand meaning
- Transient Vocabulary
 - Used within a specific content
 - May not have long range use (conversation or reading)

Activity

- C = Core
- F = Fringe
- S = Subject specific



Development of Morphology and Syntax

- Brown's Stages
- a framework within which to understand and predict the path that normal expressive language development usually takes, in terms of morphology and syntax.
- http://members.tripod.com/Caroline_Bowen/BrownsStages.htm

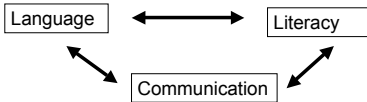
Brown's Stage II (Ages 2 to 3 years)

- Present progressive verb tense: "ing"
 - Mommy going
- Preposition use: "in, on"
 - ball in, on table
- Plurality: +s
 - two cars, more cookies, my books

•Stage II: 2.25 MLU

Guiding Principle

- Intervention must blend communication and language learning so the individual will become a competent in conversation and literacy.



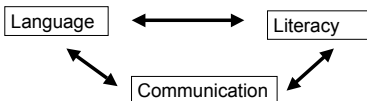
Exploring AAC:

Unity, Gateway, Word Power

A screenshot of an AAC (Augmentative and Alternative Communication) software interface. It features a grid of icons on the left, a central keyboard with letters and numbers, and a bottom section with more icons. The interface is designed for users to communicate using symbols and text.

Guiding Principle

- Literacy learning cannot occur without imbedded communication and language components.



Classroom Barriers

- Physical access to learning opportunities
 - Attitudes
 - Availability
- Identifying Communication Opportunities
 - Conversation
 - Academic
 - Language and Literacy
 - Basic routines

AAC in the Classroom: www.sst6.org
Resources/Assistive Technology

Literacy Opportunities

- "I can't guarantee that every child with a disability will learn to read and write just because you provide accessible print materials in the environment, but I can guarantee that if you never provide children with disabilities the opportunity to learn, they won't."
--David Koppenhaver

Literacy Studies

- Roughly 90% of students with multiple disabilities never learn to read above the 2nd grade level (Koppenhaver & Yoder, 1992).
 - Limited access to general curriculum
 - Low expectations for academic achievement (Commission on Excellence in Special Education, 2002)

• **Traditional views** of literacy learning excluded many children with disabilities because they did not demonstrate the “necessary” pre-requisite skills.

• **Current perspectives** recognize the diversity of learners, and emphasize instruction that is directed toward strategies for *emergent* literacy.

National Reading Panel Report (2000)

• Five key areas of reading instruction:

- Phonemic Awareness
- Phonics
- Fluency
- Vocabulary
- Text Comprehension

Phonemic Awareness

• the ability to notice, think about, and work with the individual sounds in spoken words.

• *Implications:* phonological system is often faulty--why typical speech has not developed; “inner voice” is limited.

Phonics

- teaches children the relationships between the letters (graphemes) of written language and the individual sounds (phonemes) of spoken language.
- *Implications:* faulty sound production affects ability to match with letters. Unable to hear the sounds "in my head."

Fluency

- the ability to read a text accurately and quickly.
- *Implications:* Fluency is based on an automatic level of decoding words.
 - device users can not read fluently using a device


Vocabulary

- refers to the words we must know to communicate effectively. In general, vocabulary can be described as oral vocabulary or reading vocabulary.
- *Implications:* limited often by the vocabulary available (verbal, low tech, high tech); limited abilities in syntax, morphology and grammar usage

Comprehension

- the reason for reading. If readers can read the words but do not understand what they are reading, they are not really reading
- *Implications:* Comprehension checks are generally assessed by responding to questions. This depends on the communication and language abilities of the student
- Poor skills in oral narration for re-telling.

Key areas of reading instruction



Ohio Academic Content Standards

Ohio Academic Content Standards: ELA

- **Phonemic Awareness, Word Recognition, Fluency (Gr K - 3)**
 - Reads using automatic decoding skills
 - Recognizes high frequency sight words within text paragraphs
 - Fluently reads grade level materials

Ohio Academic Content Standards: ELA

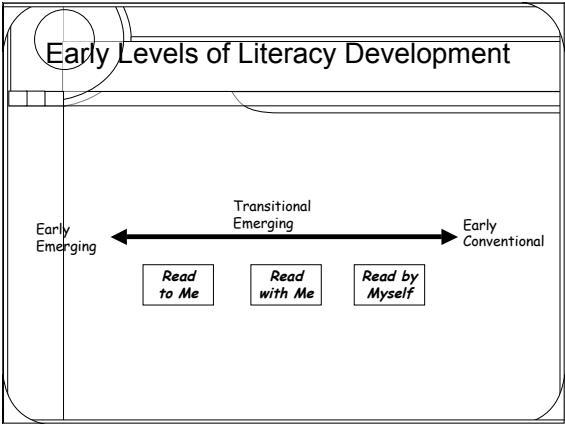
- **Acquisition of Vocabulary**
 - Has a growing stock of sight vocabulary words
 - Uses context clues and word structures to read unknown words
 - Understands and applies vocabulary knowledge within instructional context

Ohio Academic Content Standards: ELA

- **Reading Process: Concepts of Print, Comprehension, and Self Monitoring Strategies**
 - Answers appropriate questions about text read
 - Answers appropriate questions about context after hearing it read
 - Summarizes text read with appropriate main idea/details

Ohio Academic Content Standards: ELA

- **Reading Applications: Informational, Technical and Persuasive Text**
 - Locates and gains purposeful information from text materials using text features and structures
- **Reading Applications: Literary Text**
 - Independently reads and discusses ideas from various types of literacy text



Early Emergent Literacy

	• Interest/Awareness	• Participation
• Phonemic Awareness	• Shows some interest or enjoyment in rhyme play activities	• Recognizes rhyme and rhyming words in context of a poem, nursery rhyme, or song
• Concepts of Print	• Shows beginning interest, excitement or attention to book reading	• Attends to story reading and graphics; communicates during story process (ie, turn page)
• Word Recognition	• Shows beginning interest or attends to graphics or pictures	• Identifies named pictures or graphics
• Fluency	• Shows beginning awareness of repetitive lines in story reading	• Participates with a predictable, repetitive line during story reading
• Comprehension	• Shows indications of spoken word and object recognition within own experiences	• Associates spoken words and connected speech with supporting graphics during story reading

Goal for Early Emergent Literacy:

- *Student realizes that text and graphics hold meaning. Reading involves engagement with a book that has a beginning/end and progresses from page to page. Student begins to see self as a reader.*

Transitional Emergent Literacy		
	• Recognition	• Demonstration
• Phonemic Awareness	• Attempts to create word similarities or rhyming words; aware of the # of words in a sentence	• Demonstrates an understanding of the # of syllables in a word; identifies some letters
• Concepts of Print	• Recognizes left-right, top-bottom flow of text page to page progression of stories	• Shows knowledge of one-to-one correspondence between spoken and written words
• Word Recognition	• Recognizes familiar signs or logos with graphic or other contextual support	• Identifies some text words without graphic or other contextual support
• Fluency	• Predicts or repeats repeated lines within a story at appropriate times	• Can reread a familiar story using picture, memory and text clues
• Comprehension	• Fills in open ended sentences and omitted words during repeated stories	• Retells a familiar story using AAC as necessary with the book present

Goal for Transitional Emergent Literacy:

- *Student is reducing the need for support and doing some independent reading, using context, picture, and letter strategies to apply decoding skills. Beginning to read some text words across different contexts.*

Early Conventional Literacy	
•Purposeful Engagement	
• Phonemic Awareness	•Demonstrates an understanding of initial and/or final consonant sounds in words
• Concepts of Print	•Can identify individual words in connected text; reads from left to right.
• Word Recognition	•Identifies an increasing # of high frequency sight words; demonstrates ability to decode unfamiliar words
• Fluency	•Reads familiar stories with varied text patterns, recognizing words with accuracy and automaticity
• Comprehension	•Retells a story after a single reading; responds to "what" and "who" questions with literal level of comprehension

Goal for Early Conventional Reading:

- *Student can read 50-75 sight words in a variety of texts. Consistently applying letter and decoding skills to new text. Can read different text at own level.*

Determining Student Level

- **Activity:** Read each category on the rubric and select the statement that matches the student's current abilities.

**Basic Principles:
Early Emergent**

- ❖ Use engaging, language rich books.
 - ❖ Position student and materials where there is a direct triangle of connection between student, partner and book/materials.
- ❖ Allow for lots of repetition of the same book.
 - ❖ Daily repeated readings only last 5 minutes
- ❖ Watch for student responses and indicators that the student is attending to story reading
- ❖ Involve student in repeated line from story.
 - ❖ Use props to encourage participation

Single Selection:

- Single switch activations
 - Meaningful activations in reading and writing applications
- Equal choice selections
- Build picture awareness/recognition
 - “in your face” (Pati King-DeBaun)

Emerging Communicator

2 - 4 Picture Choices

- Picture Recognition
- Sentence and phrase based messages
 - Begin combining 2 symbols

Emerging Communicator

**Basic Principles:
Transitional Emerging**

- ❖ Use books with predictable text
- ❖ Encourage more direct word to text connection.
- ❖ Begin to use simple decoding strategies
- ❖ Focus on word rimes (family parts) and creating new words from within the story.
- ❖ Focus on high frequency words to build sight recognition

8 -12 key story board

- Combining phrase and words to make novel messages
 - Variety of message forms
- Using symbols to ask and respond to questions
- Early letter/sound skills

Basic Communicator

12- 30 key Story Board

- Primarily word-based
 - Combining symbols to make more grammatically correct sentences
- Can use symbols to generate novel messages- more core, less topic specific vocabulary
- Use of simple text to support communication

Basic Communicator

**Basic Principles:
Early Conventional**

- ❖ Provide daily and meaningful purposes for reading at the student's level.
 - ❖ Encourage reading of text with independence.
 - ❖ Limit the number of different words but provide plenty of opportunity to read/re-read same words in various forms.
- ❖ Focus on Word Study and decoding strategies
- ❖ Increase number of high frequency word for recognition


For AAC: Multiple Overlays

- Navigates and combines core and topic vocabulary to generate grammatically correct sentences
 - Uses high frequency sight words within communication messages
 - Actively using text to support communication

Progressive Communicator


Text That is Leveled Appropriately

- Microsoft Word Features
 - Reading level
 - Auto-summarize
- Rewriting Text - Fall leaves



Activity

- Rewriting Text - Fall leaves



Making Adapted Books

- PowerPoint
- Clicker (Crick software)
- Classroom Suite (Intellitools)
- My Own Bookshelf (SoftTouch)


Reading Sources

- NEW curriculum materials from www.news-2-you.com
- www.readinga-z.com
- www.starfall.com
- Balanced Literacy (Intellitools)
- Literacy Starters (Don Johnston)

Balanced Literacy Instruction

Based on 4 Block Approach
by Patricia Cunningham

Guided Reading	Self Selected Reading
Writing	Word Study



Foley, B. & Staples, A.(2006) Assistive Technology Supports for Literacy Instruction. Perspectives on AAC.

Guided Reading

- Students get daily experience reading books that are leveled to match their ability
 - Print has meaning
 - Repeated readings
 - Shared or supported reading
 - Teachers observe the student to build on strengths and weaknesses

Strategies for Guided Reading

- Physical Access to books:
 - Page adaptations
 - Recorded books
 - BookWorm (AbleNet)
 - PowerPoint created books
 - Hit the spacebar or switch
 - Other Electronic formats: Clicker 5, Intellitools, My Own Bookshelf

Strategies for Guided Reading

- Communication Access to books:
 - Select meaningful vocabulary
 - "delighted" = "happy"
 - Build vocabulary in graphic organizers
 - Create a story map
 - Paraphrase story sentences using simple language
 - Symbol boards for responses

Strategies for Guided Reading

- Comprehension:
 - Word level activities to building word meaning
 - Develop word maps, compare and contrast charts
 - Sentence level activities for meaning relations
 - Cut apart sentences and unscramble
 - Create new sentences with a carrier phrase

Strategies for Guided Reading

- Build Narrative Skills for retelling
 - Day 1: Story reading and retelling using the story map of main elements of the story
 - Story characters, actions, feelings of characters, etc.
 - Day 2: Story reading and retelling with supported fill-in sentences
 - Day 3: Story retelling using graphic cards

Soto, G. (2006) Supporting Development of Narrative Skills in Children Who Use AAC

Self Selected Reading

- Students choose to read
 - Choice in book selection
 - Supported reading of repeated books
 - Opportunities for independent reading
 - Interesting, accessible and age-appropriate text

Strategies for Self-Selected Reading

- Use many of the physically accessible books types described in Guided Reading
- Build interest and background with video and movie clips.
- Self selected reading may also include shared reading.
- <http://www.readinga-z.com/>
- <http://www.raz-kids.com/>
- <http://www.tumblebooks.com>
- <http://starfall.com>

Word Study

- Learning about sounds and letters
 - Alphabetic principle
 - Phonological Awareness
 - Phonics
 - Onset and rime
 - Word recognition
 - Spelling

Strategies for Word Study

- Use magnetic letters that can be easily manipulated
- Use graphics to support word rhymes
- Word Wall activities (Patricia Cunningham)
- www.starfall.com
- Electronic software programs
 - Clicker 5
 - IntelliTools Classroom Suite
- Word prediction software

Writing

- More than handwriting!
- Participating in all aspects of the writing process.
- Communicating effectively in written forms for a variety of purposes.
- An integrated part of reading.

Strategies for Writing

- Word processing options, with text-to-speech
- Software programs: Intellitools, Clicker 5
- Low tech options for patterned sentences, fill in sentences

Project

1. Re-write story in simple language
 - What vocabulary will be taught?
2. Create a communication board or story map to go along with story
 - How will this be used to build narrative skills?
3. Select word study words (building phonics skills - word rimes)
4. Design a writing activity
