

Addressing Literacy Inclusion for AAC Users

Tricks and Tools of the Trade



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AGENDA

- The Role of the SLP
- Literacy Development in AAC Users
- ALL Curriculum and the Four-Blocks® framework
- Literacy Application of High Tech AAC Systems

Why are we talking about Literacy?

- "Literacy is a bridge from misery to hope. It is a tool for daily life in modern society. It is a bulwark against poverty, and a building block of development, an essential complement to investments in roads, dams, clinics and factories. Literacy is a platform for democratization, and a vehicle for the promotion of cultural and national identity...**For everyone, everywhere, literacy is, along with education in general, a basic human right....** Literacy is, finally, the road to human progress and the means through which **every man, woman and child can realize his or her full potential.**"

~ Kofi Annan



Why are we talking about Literacy?

- "The more you read, the more you know. The more you know the more places you'll go."

• Dr. Seuss, "I Can Read with My Eyes Shut"




What we know...

- Research indicates that 17-20% of our nation's children experience substantial difficulties in learning to read, and that more than a third of students in fourth grade (and nearly 70% in some low-income urban schools) read below the basic level.

Facts for slides 3-7 downloaded from:
http://www.asha.org/public/speech/development/literacy_facts.htm

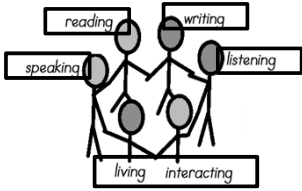
- Children who have problems with **spoken language** frequently experience difficulties learning to read and write.
- Children with reading and writing problems often experience difficulties **using language to communicate**, think and learn.

- **BUT instruction in spoken language** often results in **growth in written language** (and vice versa).



Benjamin

Interdependence



- “Reading, writing, listening, and speaking are so **interconnected yet independent language systems** that develop in overlapping, parallel waves.”

Sturm & Clendon, 2004

What we do...

- *Speech-language pathologists* are the clinicians who:
 1. Identify, assess and treat speech and language problems.
 2. Possess the knowledge and training to support the development of spoken language as a foundation for learning to read and write.

What we do...

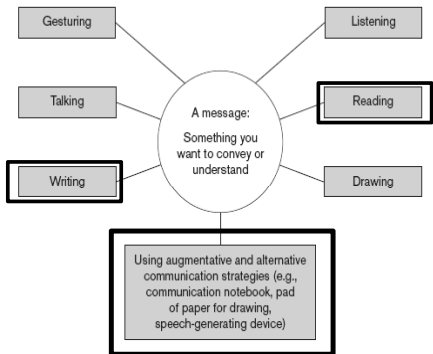
- Cooperate with:
 - parents, teachers, audiologists (hearing health care professionals), guidance counselors and others
- Integrate students' communication goals with academic and social goals:
 - Through individual or group sessions
 - In classrooms or in collaboration with teachers,
 - Through consultation with teachers and parents.

Role of the SLP in Literacy?

- **Prevent** written language problems by fostering language acquisition and emergent literacy
- **Identify** children at risk for reading and writing problems
- **Assess** reading and writing
- **Provide intervention** and documenting outcomes for reading and writing
- **Take on** additional roles:
 - assistance to general education teachers, parents, and students
 - advocating for effective literacy practices
 - advancing the knowledge base.

ASHA, 2001

WHAT IS COMMUNICATION?



From *Augmentative Communication Strategies for Adults with Acute or Chronic Medical Conditions* (Lasker, Garret & Fox, 2007)

12

The Importance of Literacy Skills for Individuals Who Require AAC

- Literacy skills
 - Allow fuller participation in education
 - Enhance cognitive development & advance learning
 - Increase access to employment opportunities
 - Expand communication options significantly
 - Increase self-esteem & perceptions of competence
 - Facilitate use of technologies (e.g., Internet)
 - Support social relationships (e.g., via email, IM)
 - Foster personal expression (e.g., journals, websites)
 - Allow access to enjoyable leisure pursuits

Light & McNaughton, 2007

But...

“Many may be **excluded** from high quality literacy learning experiences because they do face significant barriers physically or communicatively.”

Foley & Staples, 2006



Barriers to Development of Literacy for Students Who Use AAC

Personal Factors:

- Decreased/Different Communication
- Decreased Experience as a Language User
- Cognitive Differences
- Physical Ability Differences
- Sensory Differences
- Decreased/Different Affect
- Decreased Attention Span
- History of Academic Difficulty

Environmental Factors*:

- Limited Access to Printed Materials and Writing Activities
- Partner controlled interactions
- Lack of access to AAC systems during literacy instruction
- Instructors' lack of familiarity of the child's primary language (structure & vocabulary available in the child's system)

Instructional Factors*:

- Lack of research based materials
- Instructional techniques require spoken responses

* Light & McNaughton, 2009

“The failure to develop literacy skills is a tragedy for any student; however, it may be even more disastrous for students who use AAC, who without the ability to read and write are **severely restricted** in terms of their access to **self-expression, independence, and a variety of AAC systems.**”

Erickson and Clendon, 2005



What Role Do High Tech Speech Generating Devices Play in Literacy?

“High tech devices hold the greatest promise for independence during guided reading because they provide users with **access to large and varied vocabulary** and well as the **potential for more complex, generative and spontaneous language use.**”

Foley & Staples, 2006



Benefits of High Tech AAC

- With the changes in technology it's the very qualities of these high tech AAC systems that are perceived as “too demanding” for individuals with severe disabilities are often the features that enable an instructional team to customize the AAC system for successful functional communication for their student.

(Bruno, 1988; Kangas and Lloyd, 1988, McGregor, G., et.al, 1992)

18

- “ Children’s natural actions and behaviors are the only prerequisites to AAC...Early behaviors and skills facilitate the gradual development of more complex communication skills, including language.”
(Cress & Marvin, 2003)

Whatever tech! Just do it!

- A high tech speech generating device may only be ONE PART of the individual’s total communication system.




Do what you already do!

Teach LANGUAGE!

“Teaching language to an AAC user is not radically different from teaching language to a child who speaks. The major difference is that for an AAC user, the **medium for expression is an AAC system** as opposed to speech.”

Bruno, 2006



22



Literacy Research Recommendations

- Read interesting texts to the student
- Build language skills
- Phonological awareness skills
- Letter-sound correspondences
- Early reading skills
 - Decoding skills
 - Shared reading
- Early writing skills

Light & McNaughton, 2006; National Reading Panel, 2000

23

How do we select a curriculum and/or materials for teaching literacy to children with complex communication needs?

Selecting Curriculum

- The Four Blocks Literacy Model
 - Patricia Cunningham & Dorothy Hall (www.fourblocks.com)
 - Children with Disabilities: Reading and Writing the Four Blocks' Way
 - Karen Erickson & David Koppenhaver
- ALL Curriculum – Accessible Literacy Learning for ALL
 - Janice Light and David McNaughton
 - <http://aaliteracy.psu.edu/ResearchResults.html>

The Four-Blocks® framework

- A multi-faceted approach to teaching reading to Kindergarten through Third Graders.
 - ("Big Blocks" – Grades 4-8)
- Acknowledges that children approach learning in a variety of ways, with different strengths, experiences and skills.
- Gives the teacher strategies and activities to meet the diverse needs of the students
- Embraced by the **Center for Literacy and Disability Studies** as the preferred method of teaching reading to students with disabilities

The Four-Blocks® framework

The diagram shows four grey rectangular boxes arranged in a 2x2 grid, representing the four blocks of the framework. The top-left box is labeled 'Guided Reading', the top-right 'Self-Selected Reading', the bottom-left 'Writing', and the bottom-right 'Working With Words'. The boxes are connected by thin lines, suggesting they are all part of a single, integrated system.

Working with Words Goals

- Learn to read and spell high-frequency words.
- Learn patterns used to decode and spell lots of other words.
- Transfer word knowledge to their own reading and writing.
 - Targeted skills:
 - Phonological awareness skill of sound blending
 - Phonological awareness skill of phoneme segmentation
 - Letter-sound correspondences
 - Single word decoding

Cunningham, Hall & Sigmon, 1999

ALL: Accessible Literacy Learning

Evidence-based Reading Instruction for Learners with Autism, Cerebral Palsy, Down Syndrome and Other Disabilities


- What is it?
 - The first-ever, research-based reading instruction program explicitly designed to meet the needs of individuals who require AAC.
 - designed to bypass the need for oral responses
 - designed to support alternative response modes and access techniques
 - Teaches Basic Reading Skills that should be combined with language and writing instruction for comprehensive literacy instruction.
- Who created it?
 - Janice Light and David McNaughton of Penn State, 2009

<http://aaliteracy.psu.edu/ResearchResults.html>

The screenshot shows a website interface with a navigation menu on the left and a video player on the right. The video shows a young girl reading a book. A star icon is overlaid on the video. The text on the right side of the page describes the student's progress.

- After approximately 15 hours of instruction, Ellie is able to decode regular 3-letter words. She successfully applies her decoding skills to read words during shared book reading with lots of different books
- Ellie is well on the way to becoming a successful reader. Click to learn more about Ellie's success learning literacy skills.

ALL Intervention




- Targeted skills:
 - Phonological awareness skill of sound blending
 - Phonological awareness skill of phoneme segmentation
 - Letter-sound correspondences
 - Single word decoding
 - Application of decoding in shared reading
 - Recognition of sight words
 - Reading simple texts

31

ALL Curriculum Addresses Literacy Recommendations

- Read interesting texts to the student
- Build language skills
- Phonological awareness skills
- Letter-sound correspondences
- Early reading skills
 - Decoding skills
 - Shared reading
- Early writing skills



32

ALL Intervention with... Working With Words

- Targeted skills:
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 - Recognition of sight words
 - Reading simple texts

33


Sound blending Working With Words

Goal:

- The student will listen to the phonemes /d o g/ with each phoneme extended 1-2 seconds, blend them to determine the word (dog), and then point to the picture dog.

Task:

- Present four pictures to the student and label them
 - dog, jog, doll, dig
- Say the phonemes /d o g/ orally with each phoneme extended 1-2 seconds.
- The student blends the phonemes and points to the picture for dog.



Light & McNaughton, 2009

34

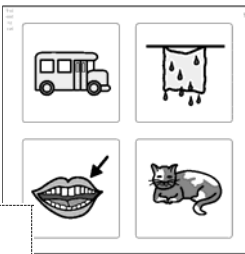
Phoneme Segmentation Working With Words

Goal:

- The student will match the phoneme /b/ to the picture that starts with /b/

Task:

- Present four pictures to the student and label them
 - bus, wet, lip, and cat
- Say the target phoneme /b/ and show the letter b.
- The student points to the picture that starts with /b/
 - bus



Light & McNaughton, 2009

35

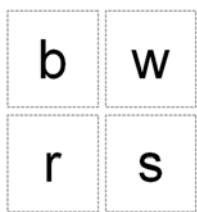
Letter-sound correspondences Working With Words

Goal:

- The student will match the target phoneme presented orally to the correct letter.

Task:

- Present 4 letters to the learner; Do not say the letter names or sounds.
- Say the target phoneme /b/
- The student points to the letter that goes with the target phoneme



Light & McNaughton, 2009

36

Letter-sound correspondences

Working With Words

Plates to support introducing letter-sound correspondences

37

Letter-sound correspondence

Working With Words

- Teach lower case letters first
- Teach letters that are used most frequently first
 - a m t s i f d r o g l h u c b n k v e w j p y (Carnine et al., 1997)
- Teach letters that are dissimilar first
- Teach short vowels before long vowels
- Teach blends once most single letter-sound correspondences are mastered

(Light, J., McNaughton, D., 2006)

38

Single word decoding

Working With Words

- Goal
 - The student will decode the written word pop and point to the picture of pop
- Task
 - Present 4 pictures and label them
 - pot, mop, pop, pup
 - Present the written word pop
 - The student must read the word and point to the picture of pop

Light & McNaughton, 2009

39

Often these skills goes BEYOND “literacy” when using a high tech device

Working With Words

- Need phonology to use “sounds like” as a strategy to expand vocabulary when it is not in the device (e.g., for a person named Pat say “sounds like hat/cat”)
- Need syllable segmentation skills to put two pre-stored words together to make a third

So, what would “working with words” intervention look like using a high tech device?

Working With Words

Use the existing Language framework within the system!

Working With Words

- Encourages participation in activities that would also generalize into other interactions
- Save yourself programming time

What type of language?

Working With Words

- Use language within the system designed for day-to-day, frequent interactions
 - Quickfires
 - Phrases
 - Messages specific to activities

What type of language?


Working With Words

- Use language within the system to develop higher level language and literacy skills.
 - Vocabulary Lists
 - Core Word Strategies
 - Keyboards

Use Other Device Features in More Directed Activities

Working With Words

- Teaching Tools
 - A collections of items not specifically related to spoken communication but supportive of language and literacy learning
 - Letter Sound Keyboard
 - Word Families
 - Symbolate
 - Sight word concentration



Goals of Guided Reading

Guided Reading

- Teach comprehension skills and strategies.
- Teach children how to read different types of literature.
- Develop background knowledge, oral language, and meaning vocabulary.
- Provide as much instructional-level reading as possible
- Maintain the self-confidence and motivation of struggling readers.

Cunningham, Hall & Sigmon, 1999

Skills We Need to Read!

Guided Reading

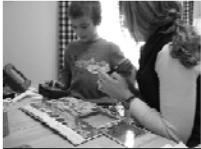
- Making sense of what is being read.
- Have enough background knowledge to integrate new information into already existing frameworks.
- Recognize different types of text and be able to predict the organization
- Be able to recognize almost all of the words

Cunningham & Allington, 1999

Guided Reading

Guided Reading

- Guided Reading activities include:
 1. "Before" reading activities
 2. "During" reading activities
 3. "After" reading activities




Guided Reading

Use the Language in the Device

Use both to interact during guided reading:

- Quickfires – “No way!” “Cool!”
- My Phrases – “I like it”
- Common Constructions
 - messages specific to reading interactions
- Word Lists or Core Words
 - e.g. fill in blanks when peer pauses during reading

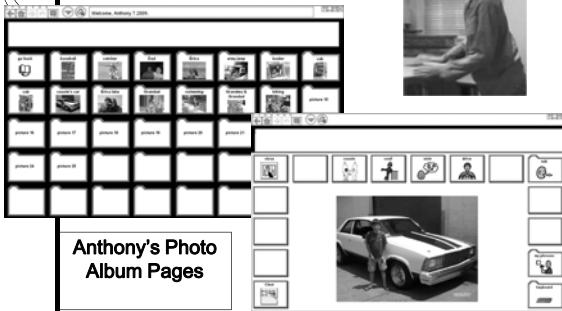


Guided Reading


Before Reading Activities Using a Device

Building and Accessing Prior Knowledge	Making Connections to Personal Experiences	<u>Developing Vocabulary Essential for Comprehension</u>
	Making Predictions	
<u>Taking a Picture Walk</u>	Starting a Graphic Organizer or KWL Chart	Setting Purposes for Their Reading Chart

• Photo Albums




Anthony's Photo Album Pages



Guided Reading

During Reading Activities Using a Device

Choral Reading	Echo Reading	Shared Reading <u>Zach</u> <u>Nicholas</u>
<u>Partner Reading</u>	Small, Flexible Groups	
	Everyone Read To... (ERT)	<u>Accessing Vocab in Device</u> <u>Zach car</u>

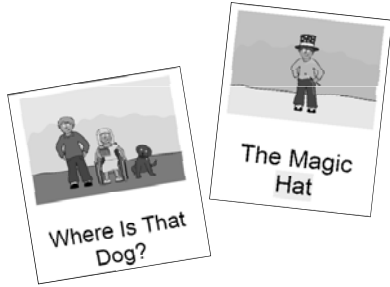

Guided Reading

ALL Curriculum: Shared Reading

- **Sample goal for decoding during shared reading**
 - When the instructor reads a sentence in a book out loud, pauses, and points to a regular 3-letter word in print, the learner will
 - decode the word
 - indicate the word by **saying it out loud, signing it, or selecting the appropriate picture or AAC symbol** with at least 80% accuracy.

Guided Reading

ALL: Shared reading sample books

54

Guided Reading

After Reading Use the Device to:

Discussing the text/literature	Connecting New Knowledge to What they Knew Before
Following up Predictions	<u>Acting Out the Story</u>
Discussing what they have learned and how they are becoming better readers by using their reading strategies.	Completing the graphic organizer or KWL Chart

- Do a picture walk and a “page walk” through your device to locate relevant vocabulary before reading.
- Look through your pictures, do you have any experiences that remind you of this story?
- Talk through predictions: What do you think will happen? How will the characters feel?
- SLP assists student in locating relevant vocabulary
- SLP models use of new vocabulary

Meagan writes about summer

Guided Reading

Use Device Features to Support Guided Reading

- Ebooks
- Using adapted books on-line on open device
- Using adapted books on-line with device as mouse control to access internet or computer program
- Accessing internet to build background knowledge
- Vocabulary Clipboards to enhance words available on device from internet research

The screenshot shows an eBook interface for 'The Wonderful Wizard of Oz' by L. Frank Baum. The interface includes a 'go back' button, a 'talk' button, and a 'Close' button. A 'My Books' section lists chapters 1 through 10. There are 'Speak Book' and 'Stop' buttons, as well as 'Previous Page' and 'Next Page' navigation buttons. The main content area displays the title 'THE WONDERFUL WIZARD OF OZ' and an 'Introduction' section with text about the story's history and moral lessons.

Self-Selected Reading

Goals of Self-Selected Reading

- Share different kinds of literature through teacher read-aloud.
- Encourage children’s reading interests.
- Provide instructional-level materials.
- Build intrinsic motivation.

Cunningham, Hall & Sigmon, 1999

Opportunities for children to share what they are reading with their peers.


Self-Selected Reading

Create a Classroom Library

- Books are sorted into baskets.
- Categories include individual authors, non-fiction, favorite series

Self-Selected Reading


Adaptations to the Library



- Accessible books: page fluffers etc.
- Adapting books with symbols to match AAC user's device
- Selection of Ebooks
- Electronic Library

Self-Selected Reading

Try Peer Assisted Book Selection



- Children choose books at the same time.
- This allows children to share opinions about books they've read and favorite authors.

Self-Selected Reading

Using the Language in the Device First!

- Use both to interact during book selection, sharing and discussion
 - Quickfires – “Cool” “Gross” “What?”
 - My Phrases – “I like it” “I think it is funny”
 - Common Constructions
 - Messages related to Reading Time
 - Vocab Lists
 - Core Words
 - Keyboards

<http://tarheelreader.org/>
Tar Heel Reader
Books for beginning readers of all ages

Welcome

Welcome to the Tar Heel Reader, a collection of free, easy-to-read, and accessible books on a wide range of topics. The books may be downloaded as slide shows in PowerPoint, Impress, or Flash format. Each book can be speech enabled and accessed using multiple interfaces, including touch screens, the Intelkeys with custom overlays, and 1 to 3 switches. Click here to learn more about alternative access methods.

You may write your own books using pictures from the huge collection at Flickr or pictures you upload. All books should be complete, edited, and revised to the best of your ability before publishing them to the site.

Note the little home icon in the upper left corner of the page. Clicking it will bring you back here.

Warning: We have books that are intended for teenagers who are just learning to read. You may find some books that are inappropriate for your students; don't use those. We recommend you learn about the Favorites page as a way to present your students with reading choices that you approve.

Ready to get started?

Reading

Books by Topic (14562)

- Alphabet (232)
- Animals and Nature (2654)
- Art and Music (336)
- Biography (2364)
- Fairy and Folk Tales (240)
- Fiction (913)
- Foods (585)
- Health (455)
- History (205)
- Holidays (432)
- Math and Science (870)
- Nursery Rhymes (113)
- People and Places (2413)
- Poetry (186)
- Scientific and Nature (1732)
- Sports (362)

Books by Audience Rating (3642)

- Rated C/Caution (411)
- Rated E/Everyone (3048)

Books by Type (6074)

- Conventional (3923)
- Other (2151)

Writing

Writing Goals

- See writing as a way to tell about things
- Write fluently
- Learn to read & communicate through writing
- Apply grammar and mechanics in their own writing.
- Learn particular forms of writing
- Maintain the self-confidence and motivation of struggling writers

Cunningham, Hall & Sigmon, 1999

Writing

Recreating Stories

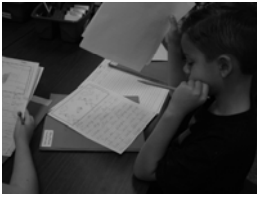
- Writing can be pairing pictures to make a story.
- For children who have weak word recognition or spelling skills, early writing may be simply rearranging pictures to make their own stories.
- Writing can be accomplished with a pencil, crayon, keyboard or assistive keyboard or augmentative communication device.



Writing

Independent Writing

- With earlier instruction, children draw pictures of the story they are trying to convey.
- After pictures are drawn, the story is written out below.
- Editing is done after the story is complete with teacher reminders of specific targets of editing.



Writing

Using the Language in the Device First!

- Use both to interact during writing activities, sharing and discussion
 - Quickfires - "Who?" "More" "All done"
 - My Phrases - "I need help"
 - Common Constructions
 - Vocab Lists
 - Core Words
 - Keyboards


Writing

Focused or Independent Writing Activities

- Letters - Megan [reading note home](#)
- Reports - [Evan's video project](#)
- Recreating or Creating Stories - [Damon/Evan](#)
- Original Adaptations of Stories
- News of the Day - [Meghan](#)
- Poems
- Shared Experiences - [Evan's book](#)
- Evaluations of Books and Activities "Opinion Pieces"
- Surveys

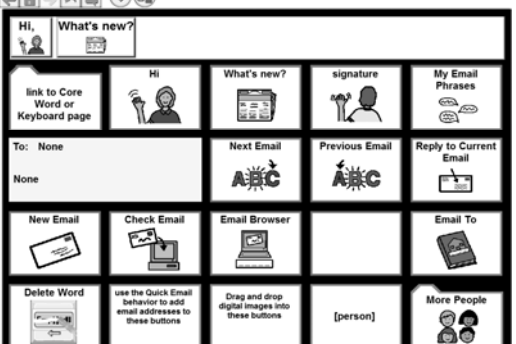
Writing

Teaching Tools: Writing Template



Writing

Writing Email



Writing

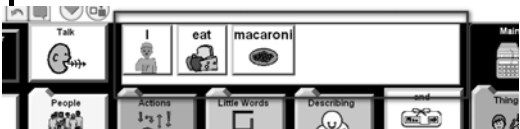
Poetry Power:

- [WISH POEM](#)
- Caroline Musselwhite: www.aacintervention.com



Other Features on the Device to Support Writing

- Message Window features
 - Speak when inserting words (or letters)
 - Speak on punctuation
 - Symbols on/off



Other Features on the Device to Support Writing

- Teaching Tools
 - Writing Templates
 - Spelling Pages
 - News for School/Home
 - Using digital images to create personal narratives
- Other:
 - Save to message behavior (journaling)
 - Save to file (journaling/writing process)
 - Email
 - Texting

Summary

- Set high expectations!
- Teach Language through Literacy!
- Get involved with higher level language and literacy activities!
- Use the language in the device!
- Use any other additional device features in a supporting role!

- “The beautiful thing about learning is that no one can take it away from you.”

- B.B. King



Questions

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