

LITERACY IN AAC

Michele Caputo Boruta, MS Ed

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AGENDA

- Section 1: The National Reading Panel – 5 domains of Literacy
- Section 2: Literacy in AAC – a framework for aligning language and literacy goals
- Section 3: Lesson planning and implementation – begin and end a lesson with a specific child friendly learning target

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SECTION I

- The National Reading Panel – 5 domains of literacy

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THE ELEMENTS OF A COMPREHENSIVE LITERACY CURRICULUM

The National Reading Panel's analysis established that a scientific approach to reading instruction incorporates:

- Explicit instruction in phonemic awareness
- Systematic phonics instruction
- Methods to improve fluency including guided oral reading
- Ways to enhance comprehension
- Teaching vocabulary words

This could be considered the **SCOPE** of reading instruction  
The CCSS along with specific reading curriculum could provide the **SEQUENCE**

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LITERACY IN AAC

- How do I give my students who use AAC access to a comprehensive literacy program?
- Access to language
- Understand scope and sequence of language and literacy
- Ongoing assessment and task analysis
- Purposeful, systematic instruction from goals
- Instruction that supports generalization

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ACCESS TO LANGUAGE

- Clear language organization (motor planning)
- Capacity for combining single words
- Availability of morphological and syntactical markers
- Capacity for growth
- Core vocabulary
- Search feature

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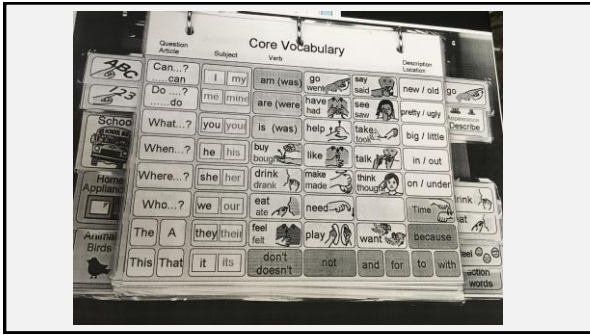
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**EMERGENT LITERACY SKILLS**

Read and talk about books, build language skills  
 Phonemic awareness in play - nursery rhymes, songs, games, shared reads with repeated text  
 Tell and write stories  
 Letters and sounds in play

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**READING TO LEARNERS - ALL**

- \*Select appropriate books or other texts
- \*Identify required vocabulary
- \*Introduce the topic
- \*Teach the learner required vocabulary
- \*Read the text to the learner and provide opportunities for the learner to comment, clarify and ask questions
- \*Model the use of AAC
- \*Respond to the learner's communicative turns
- \*Ask the learner appropriate questions
- \*Encourage the learner to become the storyteller

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READING MATERIALS REFLECT THE PURPOSE FOR READING

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READING WITH A PURPOSE

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WORDLESS BOOKS



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CONVENTIONAL LITERACY SKILLS

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CCSS: CONCEPTS OF PRINT (K)

- [CCSS.ELA-LITERACY.RF.K.1](#) Demonstrate understanding of the organization and basic features of print.
- [CCSS.ELA-LITERACY.RF.K.1.A](#) Follow words from left to right, top to bottom, and page by page.
- [CCSS.ELA-LITERACY.RF.K.1.B](#) Recognize that spoken words are represented in written language by specific sequences of letters.
- [CCSS.ELA-LITERACY.RF.K.1.C](#) Understand that words are separated by spaces in print.
- [CCSS.ELA-LITERACY.RF.K.1.D](#) Recognize and name all upper- and lowercase letters of the alphabet.

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ALPHABETIC PRINCIPLE AND PRINT AWARENESS

- \*letters combine to make words
  - \*words are composed of sounds and letters represent those sounds
  - \*anything that can be pronounced can be spelled
  - \*In the United States, we read from top to bottom, left to right
- Print awareness develops with exposure

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ALPHABETIC PRINCIPLE

- 1. Articulatory placement of target sounds
  - \*Memorize placement of onset
  - \*Memorize sequence of movement (long vowel "A" = A + E)
  - \*Develop inner voice
- 2. Think of words beginning with the target sound
  - \*Using natural voice
  - \*Using picture boards
  - \*Using a SGD
  - \*Using choice boards or graphic organizers

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ALPHABETIC PRINCIPLE

- 3. Listen for (and discriminate) the target sound in the initial position
- 4. Listen for the target sound in the final position
- 5. Listen for the target sound in word pairs (like - bike)
- 6. Write the target letter (letter sticks, chalkboard, paper and pencil)

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PHONEMIC AWARENESS

- Awareness that speech is made of distinct, identifiable sounds
- Role of working memory and subvocalic articulation
  - Develop an inner voice
  - Encode and process




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PHONEMIC AWARENESS SKILLS

- 1. Develop a kinesthetic awareness of sounds - say /m/ what is your mouth doing? Is air coming out? Say /b/. What is different? Put your hand on your neck. What do you feel?
- 2. Blend two words into a compound with an auditory prompt - put these words together into one word "motor" + "cycle" into "motorcycle"
- 3. Blend one syllable words from an auditory prompt - blend the sounds /s - a - m/ into sam
- 4. Recognize and distinguish between similar sounds - notice the difference between d and b
- 5. Segment one syllable words - segment mat into /m - a - t/
- 6. Isolate the initial sound - identify /r/ as the first sound in ram

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PHONEMIC AWARENESS SKILLS

- 7. Change the initial sound to create new words - change sat to bat, cat, that
- 8. Isolate the final sound - identify /t/ as the final sound in sat
- 9. Change the final sound to make new words
- 10. Isolate the medial vowel sound - identify /i/ as the middle sound in big
- 11. Blend two-syllable words - blend /s - i - s - t - e - r/ into sister
- 12. Rhyme one-syllable words - tan, fan, ran, man

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CCSS: PHONEMIC AWARENESS (K)

- Demonstrate understanding of spoken words, syllables, and sounds (phonemes).
- [CCSS.ELA-LITERACY.RF.K.2.A](#) - Recognize and produce rhyming words.
  - [CCSS.ELA-LITERACY.RF.K.2.B](#) - Count, pronounce, blend, and segment syllables in spoken words.
  - [CCSS.ELA-LITERACY.RF.K.2.C](#) - Blend and segment onsets and rimes of single-syllable spoken words.
  - [CCSS.ELA-LITERACY.RF.K.2.D](#) - Isolate and pronounce the initial, medial vowel, and final sounds (phonemes) in three-phoneme (consonant-vowel-consonant, or CVC) words. (This does not include CVCs ending with /ll/, /rl/, or /xl/.)
  - [CCSS.ELA-LITERACY.RF.K.2.E](#) - Add or substitute individual sounds (phonemes) in simple, one-syllable words to make new words.

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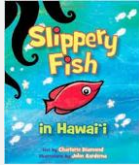
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PHONEMIC AWARENESS



AND systematic, explicit instruction

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PHONICS

The system of relationships between letters and sounds in an alphabetic writing system

Critical for reading and spelling

Typically taught in grades K-2

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CCSS: PHONICS (K)

Know and apply grade-level phonics and word analysis skills in decoding words.

[CCSS.ELA-LITERACY.RF.K.3.A](#) Demonstrate basic knowledge of one-to-one letter-sound correspondences by producing the primary sound or many of the most frequent sounds for each consonant.

[CCSS.ELA-LITERACY.RF.K.3.B](#) Associate the long and short sounds with the common spellings (graphemes) for the five major vowels.

[CCSS.ELA-LITERACY.RF.K.3.C](#) Read common high-frequency words by sight (e.g., the, of, to, you, she, my, is, are, do, does).

[CCSS.ELA-LITERACY.RF.K.3.D](#) Distinguish between similarly spelled words by identifying the sounds of the letters that differ.

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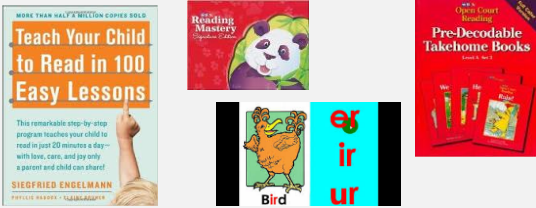
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CURRICULUM




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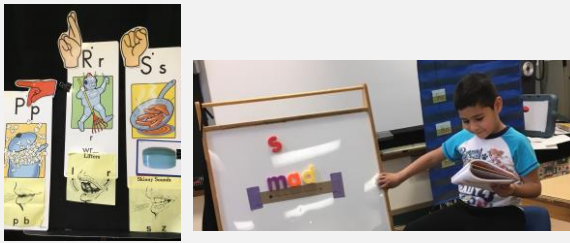
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PHONICS AND AAC




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SEGMENTATION

- \*syllabication
- \*restoring initial consonant phoneme
- \*restoring final consonant phoneme
- \*replacing initial consonant phoneme
- \*replacing final consonant phoneme

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BLENDING AND SEGMENTING

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SIGHT WORD READING

- In context
- In addition to other literacy instruction

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LEARNING SIGHT WORDS

•“I can...

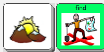
•...read the word”



•...write the word”



•...find the word”



•...sign the word”



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### INDIVIDUAL FOLDERS

- 1:1 with the teacher or instructional assistants
- Small groups with similar ability
- Small groups with different ability

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### WHAT'S INSIDE?

- \*decodables
- \*leveled readers
- \*word cards

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PROCESS

- 1. word work - read, write, find, sign
  - \*words I know &
  - \*words I'm working on
- 2. book work
  - \*picture walk
  - \*teacher reads, student reads
  - \*student reads, teacher reads
  - \*comprehension
- 3. tracking

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Open Court Reading  
Pre-Decodable Books

Name \_\_\_\_\_

Pre-Decodable Title \_\_\_\_\_ # \_\_\_\_\_

The high-frequency words I am learning are:

\_\_\_\_\_

\_\_\_\_\_

I demonstrate word recognition by:

- \_\_\_ signing
- \_\_\_ E-Tron
- \_\_\_ Verbal approximation
- \_\_\_ Pointing (array of \_\_\_ choices)

Date: \_\_\_\_\_ I need more practice with:

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

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VOCABULARY DEVELOPMENT

Learning language in context

Pre-teach meaning and location on system

Provide opportunities for generalization

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CCSS: VOCABULARY ACQUISITION AND USE (K)

[CCSS.ELA-LITERACY.L.K.4](#) Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on kindergarten reading and content.

[CCSS.ELA-LITERACY.L.K.5](#) With guidance and support from adults, explore word relationships and nuances in word meanings.

[CCSS.ELA-LITERACY.L.K.6](#) Use words and phrases acquired through conversations, reading and being read to, and responding to texts.

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NONLINGUISTIC ILLUSTRATION OF CONCEPTS

- Experience the concept
- Observe
- Picture



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VOCABULARY DEVELOPMENT AND AAC

- Conceptual learning
- Descriptive vs. Referential teaching
- Language drives literacy

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HATCHING CHICKS




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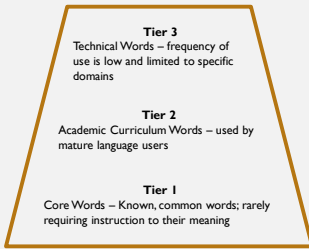
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3-Tier Model for Choosing Vocabulary



Isabel Beck

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EXAMPLES

- Hatch
- Rotate
- Accompany
- Identical

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DESCRIPTIVE TEACHING

- Move the referent from the answer to the question.
- What is the largest planet? BECOMES Tell me about Jupiter.
- Who was the first president of the United States? BECOMES Tell me about George Washington.

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TELL ME SOMETHING ABOUT JUPITER?

- It is big.
- It is round.
- It has rings. They are small and dark.
- The inside is hot.
- It has clouds. They can be blue, brown, white, or red.
- It has wind.
- It has four moons.
- It is fifth from the sun.
- It is made of gas.



Bruce Baker

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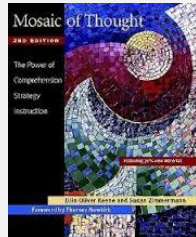
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COMPREHENSION

- Summarizing
- Monitoring and clarifying
- Asking questions
- Predicting
- Making connections
- Visualizing




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CCSS: COMPREHENSION

Reading informational texts  
Reading literature

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READ WITH A PURPOSE

Model and teach metacognitive strategies through teacher read alouds

- Repeat readings for multiple purposes -
- Another comprehension strategy
- Practice circumlocution – vocabulary development
- Identify feelings (reader/characters)
- Add a new ending
- Expand dialogue
- Compare and contrast

Read for fun!

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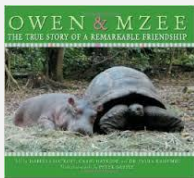
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COMPREHENSION CARDS

<p><b>Asking Questions</b></p>  <p>I have a question to ask.</p>	<p><b>Making Connections</b></p>  <p>This reminds me of something.</p>
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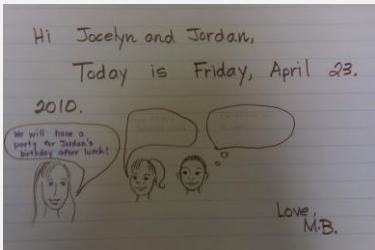
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INFERENCE

	 <p>Hi Jocelyn and Jordan, Today is Friday, April 23, 2010. We will have a party for Jordan's birthday after lunch! Love, M.B.</p>
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SUMMARIZING

	
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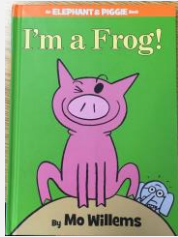
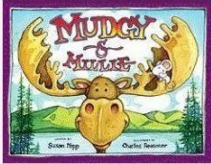
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MONITORING AND CLARIFYING



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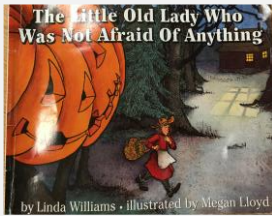
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ASKING QUESTIONS



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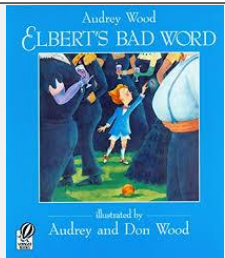
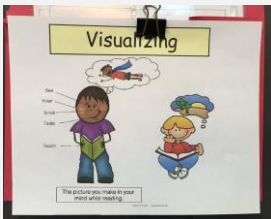
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VISUALIZING



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FLUENCY WITH CONNECTED TEXT

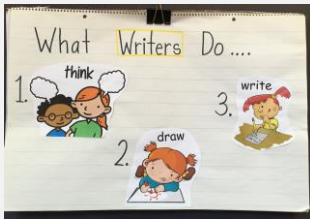
CCSS.ELA-LITERACY.REK.4 Read emergent-reader texts with purpose and understanding.



\*\*Develop inner voice

Horizontal lines for writing practice.

WRITING



\*\*Lucy Calkins developmental writing

Horizontal lines for writing practice.

SUPPORTED WRITING



Horizontal lines for writing practice.




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**SPELLING AND DICTATION**

1. random sounds in sequence (write /d/, write /s/)
2. sounds in one syllable word dictation (write the word "sam" - /s/, /a/, /m/)
3. whole word dictation - can be letter by letter with pencil or keyboard or whole word with icon sequences
4. sentence dictation

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**READING EXPERIENCES**

- Read aloud
- Shared reading
- Audio books
- Morning message
- Guided reading
- Leveled readers
- Reading on the computer
- High frequency words
- Library
- Learning center guidelines

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PROGRAM DEVELOPMENT

- Explicit instruction in phonemic awareness
- Systematic phonics instruction
- Methods to improve fluency including guided oral reading
- Ways to enhance comprehension
- Teaching vocabulary words

This could be considered the **SCOPE** of reading instruction

The CCSS along with specific reading curriculum could provide the **SEQUENCE**

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SECTION 2

- Integrating language and literacy instruction

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WHAT IS THE SCOPE AND SEQUENCE OF LEARNING TO COMMUNICATE FOR A PERSON WHO USES AAC?

SCOPE

- Linguistic
- Operational
- Social
- Strategic
- Psychosocial Factors

Communicative Competence was initially proposed by Janice Light et al. in 1989 and reevaluated in 2014

SEQUENCE

- Linguistic
  - We have to rely on research in typical language development. There is no evidence of differences in developmental sequence or operating principles\*\*
- Operational
  - AAC Profile / DAGG
- Social
  - AAC Profile
  - Garcia-Winner
- Strategic
  - AAC Profile

\*\*National Joint Committee for the Communication Needs of Persons with Severe Disabilities (NJCS) and NIH Panel on Language Needs for Children with ASD (Dager-Harding et al. 2009)

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LINGUISTIC COMPETENCE

- Individuals who use AAC need to:
- Learn the language (i.e. English)
  - Learn how the language is represented on the system with symbols

- Facilitators need to:
- Learn how the language is represented on the system with symbols

[Link to QUAD](#)

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OPERATIONAL COMPETENCE

\*\*refers to all operational and maintenance aspects of the device.

- Individuals who use AAC and facilitators need to:
  - Keep the vocabulary in the device up to date
  - Modify the system for tomorrow's needs
  - Protect device against breakage, damage, or other problems
  - Secure necessary repairs
  - Ensure day-to-day availability and operation of device

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\*\*OPERATIONALIZING OPERATIONAL COMPETENCE

**Level 1** →

Cognitive domain (AAC skills)				
1. Shows intentional movements for the selected motor tasks				
2. Attends to the AAC system and recognizes it as a tool for water purposes				
Other:				

**Level 2** →

Cognitive domain (AAC skills)				
1. Intentionally seeks out AAC system for use				
2. Understands cause and effect that using the AAC system will affect the actions and behaviors of other people				
Other:				

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## SOCIAL COMPETENCE

SOCIOLINGUISTIC

- Initiate, maintain and terminate conversations
- Give and take turns
- Communicate a variety of functions
- Engage in a variety of interactions

SOCIORELATIONAL

- Positive self-image
- Interest in others and a desire to communicate
- Active participation in conversation
- Responsiveness to partners
- Ability to put partners at ease

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## \*\*OPERATIONALIZING SOCIAL COMPETENCE

Level 3

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**Person Who Uses AAC**

1. Demonstrates increased AAC system use and practice				
2. Purposefully uses AAC system and communication functions to more fully participate in social communication				
3. Purposefully uses AAC system and practice discourse strategies to more fully participate in communicative exchanges				
Other:				

Level 4

➔

**Person Who Uses AAC**

1. Appropriately identifies and expresses opinions and intentions to others				
2. Demonstrates increased confidence in using AAC system for social communication				
3. Effectively uses discourse strategies and interaction functions				
4. Demonstrates interaction functions at appropriate times in conversations				
Other:				

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## STRATEGIC COMPETENCE

\*\*involves the knowledge, judgment and skills that allow the user to communicate effectively within restrictions (Light, 1989)

\*development of compensatory strategies

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**\*\*OPERATIONALIZING STRATEGIC COMPETENCE**

	1. Generate appropriate messages that are specific to context and situational demands				
	2. Participates in bid exchanges of information when speed is needed				
<b>Level 4</b> →	3. Recognizes need to be more conversational and use more complex language to be a more effective communicator				
	4. Identifies appropriate communication needs to use				
	5. Rates on operational and linguistic competence to use AAC system most effectively				
<b>Person Who Uses AAC</b>					
	1. Employs communication repair strategies				
	2. Appropriately uses vocabulary to communicate. When specific vocabulary is not available, general cues can be used to help communication partner understand the message				
<b>Level 5</b> →	3. Communicates using AAC system with verbatim likeness and practices information about how to use that communication				
	4. Switches modes of communication effectively and as needed				
	5. Adjusts formality of messages relative to social contexts				

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**STRATEGIC COMPETENCE**

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**PSYCHOSOCIAL FACTORS**

- **Motivation** - drive to communicate despite complexity
- **Attitude** - resulting willingness/unwillingness
- **Confidence** - to take risks
- **Resilience** - despite challenges and failures to move on and try again

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**COMPREHENSIVE PROGRAM**

<b>COMMUNICATIVE COMPETENCE</b> <ul style="list-style-type: none"><li>• Linguistic</li><li>• Operational</li><li>• Social</li><li>• Strategic</li> <li>• Psychosocial factors</li></ul>	<b>LITERACY</b> <ul style="list-style-type: none"><li>• Phonics</li><li>• Phonemic Awareness</li><li>• Reading/listening comprehension</li><li>• Fluency with connected text</li><li>• Vocabulary</li> <li>• writing</li></ul>	<b>MATH</b> <ul style="list-style-type: none"><li>• Conceptual math</li><li>• Operational math</li></ul>
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SCIENCE AND SOCIAL STUDIES

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**ALIGN LANGUAGE AND LITERACY GOALS**

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graph LR; A[Select a literacy goal (CCSS)] --> B[Identify the essence of the standard or goal]; B --> C[Align with the student's language objective]; C --> D[Write a child-friendly learning target];
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**LANGUAGE LEVEL**

- QUAD Profile
- AAC Profile
- DAGG-2
- Specific language assessments

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- Standard:
  - CCSS.ELA-LITERACY.SL.1.8 Build on others' talk in conversations by responding to the comments of others through multiple exchanges.
  - CCSS.ELA-LITERACY.SL.1.3 Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- Essence of the standard:
  - Listening and responding appropriately in conversation
- Language level:
  - Using low tech systems to produce 1 word and some 2 word combinations
- Learning target:
  - I can tell a friend a story
  - I can listen and answer questions about my story

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### READING COMPREHENSION

- K.ELA.2.3 Connect to life experiences the information and events in texts.
- 1.ELA.2.6 Relate prior knowledge to textual information.
- 2.ELA.3.1 Compare and contrast plots, settings, and characters presented by different authors.
- Making Connections
  - Text to self
  - Text to text
- Language level

**Learning Target:** I can listen to a story and make a connection to another story or to my own life

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### MAKING CONNECTIONS

Making Connections



This reminds me of something.



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LITERACY AS A CONTEXT FOR LANGUAGE INTERVENTION

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SECTION 3

• Lesson planning and implementation

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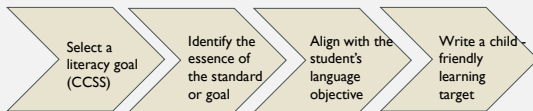
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ALIGN LANGUAGE AND LITERACY GOALS



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LESSON PLANNING FORMATS

Doug Lemov  
I,We,You, (+)

Light/McNaughton  
Model  
Guided Practice  
Independent Practice  
Feedback

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**Direct Instruction**

1. Introduce the learning target
2. Review target vocabulary
3. A. Model the activity  
    B. Do it again and go big!

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**Guided Practice**

"Help the student achieve the learning target."

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 **Independent Practice**  
"Give the student an opportunity to show you where they are."

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 **Provide a wrap**  
1. Review the learning target and target vocabulary  
2. Give specific feedback

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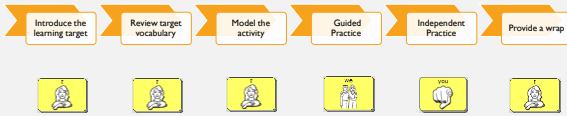
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I, WE, YOU + I



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IMPLEMENTATION

- \*Clearly stated learning targets that incrementally build knowledge
  - \*Offer opportunities to generalize – repetition with variety
  - \*Help the student develop an inner voice
  - \*Use and teach metacognitive strategies
  - \*\*Engagement
- Intentional attention for the purpose of understanding*

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THE THREAD



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"NO MORE ALL GONE"

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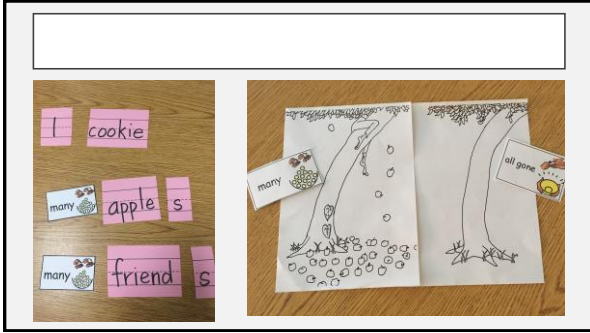
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**WRAP UP**

- Section 1: The National Reading Panel – 5 domains of Literacy
- Section 2: Literacy in AAC – a framework for aligning language and literacy goals
- Section 3: Lesson planning and implementation – begin and end a lesson with a specific child friendly learning target

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