Practical Strategies for Building Vocabulary in Students Who Use AAC
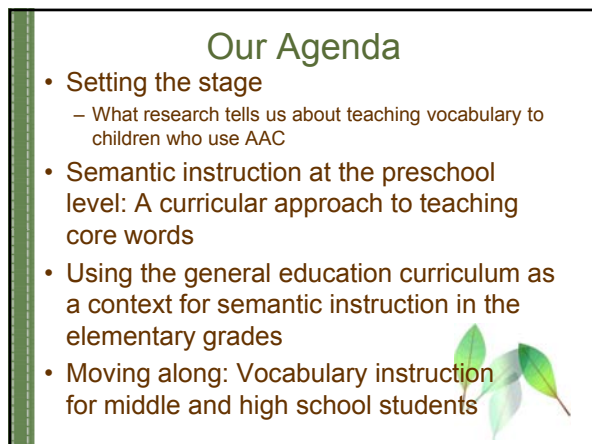
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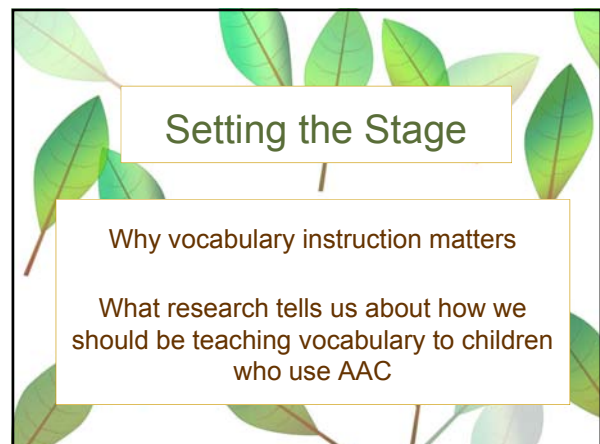San Francisco State University

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Thank you to
SIG 12 (AAC)
for sponsoring this session.

"Vocabulary words are the building blocks of the internal learning structure. Vocabulary is also the tool to better define a problem, and seek more accurate solutions." R. Payne

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Our Agenda

- Setting the stage
  - What research tells us about teaching vocabulary to children who use AAC
- Semantic instruction at the preschool level: A curricular approach to teaching core words
- Using the general education curriculum as a context for semantic instruction in the elementary grades
- Moving along: Vocabulary instruction for middle and high school students
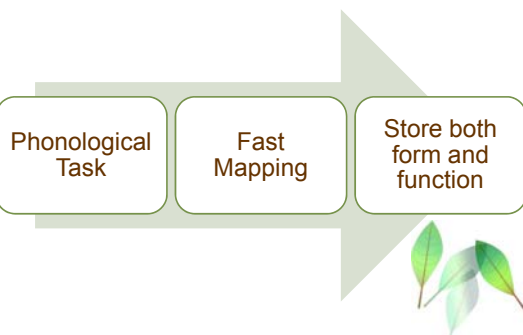

Setting the Stage

Why vocabulary instruction matters

What research tells us about how we should be teaching vocabulary to children who use AAC

Zangari & Soto, 2012

- Vocabulary skills are linked to academic and literacy achievement.

- Children who use AAC experience numerous vocabulary-related problems.

Small Expressive Lexicon

Poor Vocabulary Knowledge

Absence of Grammatical Morphemes
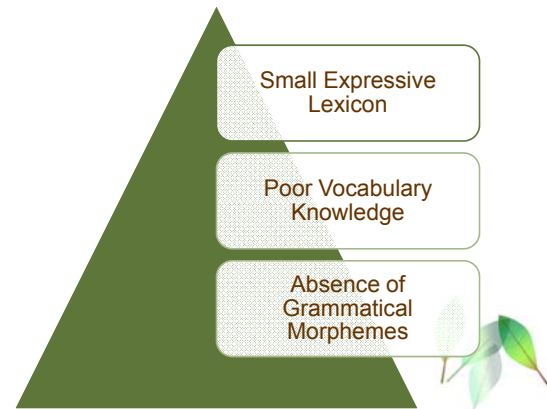
Learning New Words
(Smith,2009)

Phonological Task

Fast Mapping

Store both form and function

- Typically developing children start combining words when they have acquired between 25-50 words

- The emergence and development of grammar is dependent on vocabulary size, more strongly in early development as the child transitions from single word utterances to sentences (Bates & Goodman, 1999).

Zangari & Soto, 2012

- The more words you know, the easier it is to learn new words and the more accurately you retain and store the words (Smith, 2009)

How children learn new words?

- Children recruit a "coalition" of social, attentional, cognitive and linguistic cues to learn the meaning of new words.

- The cues for word learning "change their weights" over development.

Attentional Cues

- Children map word to meaning through association of the most frequently word used to the most salient referent :
  - perceptual saliency
  - association
  - frequency

Cognitive Cues

- Cognitive assumptions that children make in early word acquisition help children narrow the possible meaning of a word :
  - reference
  - extendibility
  - whole object bias
  - conventionality
  - categorical scope
  - novel name-nameless categories

Zangari & Soto, 2012

- Words direct children's attention to aspects of reality that get encoded in their native language, e.g., tight of fit, spatial preposition, path of motion.

Social/Pragmatic Cues

- Adults talk about objects, actions and events that children are focused on, thereby producing language that is relevant to the child's interests (L. Bloom).
  - Relevance
  - Discrepancy
  - Elaboration

- Children use *social cues* to interpret what the communication partner intends to mean (Tomasello).

- "Word learning is the product of the active mind of a child. Children strive to learn the words that can express what they have in mind....A language will never be acquired without engagement in a world of persons, objects and events." Bloom, 2000 p. 44

Linguistic Cues

- Children at different ages differ in their patterns of word learning (Bloom, 2003):

  - Beginning communicators tend to learn words that refer to entities, properties and actions that are accessible to them through observation of the material world and attention to the intentional acts of those around them.

  - Through hearing words in the context of sentences (I.e., comprehension), they learn that order and form matters and begin to draw meaning cues from syntax.
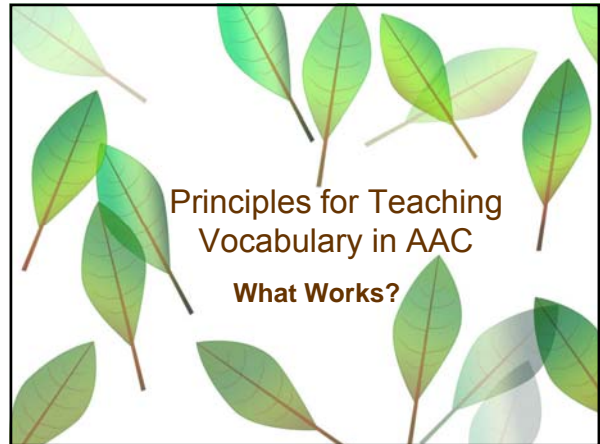
Zangari & Soto, 2012
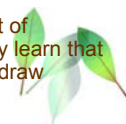
Example

- This is a FEP.
- These are FEPS.
- This is FEP.
- John FEPS.
- John FEPS Bill.
- This thing is FEPPY.
- The dog is FEP the table.

Principles for Teaching Vocabulary in AAC

What Works?

Word Learning in AAC: Use Attentional Cues

- Perceptual Saliency and Temporal Contiguity
  - at the beginning use highly referential and contextualized intervention
  - heavy emphasis on observable objects, properties and events
  - use discourse-based tasks; words cannot be taught in isolation

Principles for Teaching Vocabulary Use Social/Pragmatic Cues

- Make clear your communicative intent

- Use highly preferred topics and activities to encourage **engagement**

Zangari & Soto, 2012

- Engagement: Intentional Attention for the purpose of deriving and sharing MEANING

- Meaning: What is perceived as relevant to the individual (based on prior knowledge, needs and interests)

- Use aided modeling: pictures have symbolic potential when presented with pragmatic cues (Preissler & Carey, 2005).

- The adult's communicative intent seem to be the strongest cue in how a child interprets the meaning of a picture under different conditions.

Principles for Teaching Vocabulary Use Linguistic Cues

- Language develops; AAC must be learned (Smith, 2006).

- Provide users with a range of lexical types and grammatical markers in order to realize different types of clauses and phrases (Kaul, 2003).

- When grammatical markers are provided, word order matches environmental language (Nakamura et al., 1998) even with nonreaders (Kaul, 2003)

Zangari & Soto, 2012

EARLY Word Learning in AAC: Putting it all together

- It is not about lists. It is about EXPERIENCE and PARTICIPATION with true communicative responsibility.

- The process of early word learning changes in the course of development:
  - From expressing owns intentions to understanding others'
  - From highly referential to conversational and "storied"

Planning an Initial Lexicon
(Holland, 1975; Lahey & Bloom, 1977)

- Developmentally appropriate
- Here and now
- Convey a variety of meanings in a range of pragmatic functions.
- Combinable
- Express feelings
- Pronouns (not L&B)
- Polar opposites (not L&B)
- Yes (not L&B) /no

Vocabulary Learning in Preschool: A Curricular Approach

What We Already Know

- The importance of core language in AAC
- How few children have a good foundation before they enter kindergarten
  - Even preschool curricula assume that children already have a good base of core words
- There is too little time for therapy.
- Time for collaboration with preschool teachers is limited.

Zangari & Soto, 2012

The Impetus & Challenge

- Focus on core vocabulary
- Frequent opportunities for practice
- Activities appropriate for children of different ability levels
- Different AAC tools and strategies
- Group and individual activities
- Interface with literacy activities
- Make it relatively easy on staff
- Truly feasible

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A Curricular Framework Offers:

- A structured means of embedding language teaching in:
  - Shared reading & writing
  - Typical preschool classroom routines
  - Classroom centers
- A systematic approach to teaching basic *core vocabulary* to children with little or no functional speech
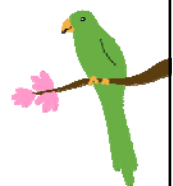- Predictability: E.g., 10-day sequence

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Our Goal for Today
...
Share a framework that you can replicate with your own books and vocabulary set

T Teaching

E Early

L Language *and*

L Literacy

Through

M Multimodal

E Expression

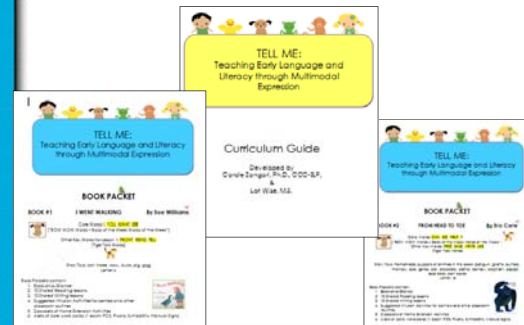Developed by Carole Zangari & Lori Wise, 2010-2012

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Zangari & Soto, 2012

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Special Thanks To:

- **Lori Wise:** Curriculum co-developer
  - Parts of this section based on Zangari & Wise, 2011; Zangari & Paiva, 2012
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Quick Tour

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Shared Reading Lessons

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Shared Writing Lessons

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Infusion Activities

This section explains various activities that enhance the direct instruction of new core words in the TELL ME Curriculum. Language and literacy experiences are infused into each aspect of the daily routine so that children get hundreds of opportunities to practice their new words each week. Teachers should infuse as many activities as possible from the list below. In each one, staff should create opportunities for use of as many of the core words as possible. Remember that our list of core words is cumulative. It grows longer with each book.

A suggested sequence of activities is provided in the Book At A Glance table that is in each Book Packet. Teachers may vary from this suggested plan as long as there is a similar number of learning activities that include the core words. In other words, teachers may substitute one activity for another but should not reduce the number of TELL ME activities that are done each day.

FOR ARRIVAL: These activities are designed to be completed every day.
1. Have a sign announcing the Book of the Week and Words of the Week (BOW-WOW) and Tiger Talk Words in the Arrival Area.
   a. Point out the new book and words to students and discuss with them.
   b. Be sure to include any words learned in previous books.
2. Sing the NAME-O Song (tune of BINGO). Use visual supports with photos of the children and their names.
   This song is sung using the names of all participants.
      I like to say good morning to
      A friend I like a lot, oh!
      L-O-R-I, L-O-R-I, L-O-R-I,
      And _ Lori _ is her name, oh!
3. Search the signs in the Arrival Area for the Special Letter. Talk about the sound it makes.
4. Use as many previous core words as possible, as well as the new core word vocabulary.

FOR CIRCLE TIME
1. Introduce BOW WOW and Tiger Talk words.

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Core Word Selection

- Available research & scholarship (e.g., Banajee; Van Tatenhove)
- Developmental patterns
- Supports a solid linguistic base
  - Different types of words (e.g., pronouns, verbs, modifiers; locatives; WH questions)
  - Good base for later lexical diversity (e.g., good)
- Opportunities for frequent use in preschool classroom
- Important for other teaching strategies (e.g., first-first/then, story sequencing, list-making)
- Teacher input

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Slide (Book Selection)

Book Selection
- Predictable and repetitive sentences
- Pictures support the text
- Not too much print per page
- Interesting and appealing to the children
- Readily accessible books; Teacher preference
- Book should be "follow-up friendly"
- Filled with opportunities to engage children in core word practice

Slide (Each book)
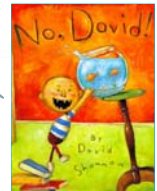
Each book has a set of core words & a designated letter.

'o'

Bad, come, messy, no, now, play

Zangari & Soto, 2012

Sample Core Vocabulary

Verbs
have, give, see

Pronouns
I, you, it

Descriptors
busy, good, little

"Function Words"
and, not, on

Nouns
boy, friend, hand

Other
away, here, what

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Book-specific Communication Boards (From Head to Toe)

Based on Zangari & Wise, 2011

Shared Reading

Zangari & Soto, 2012
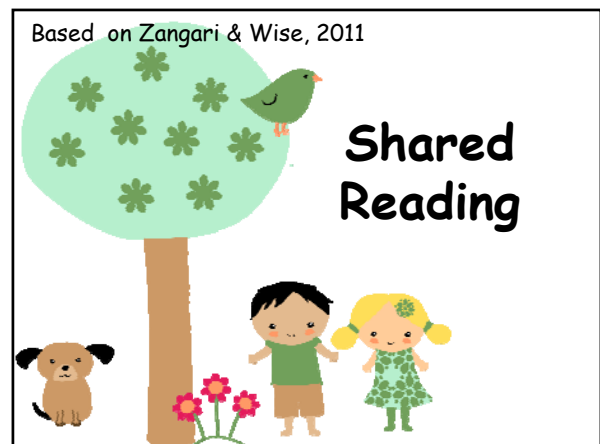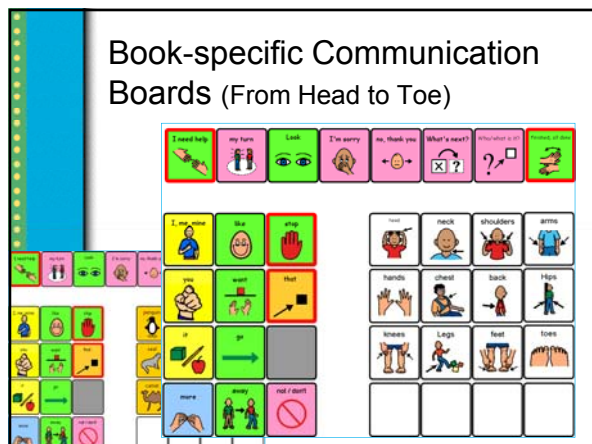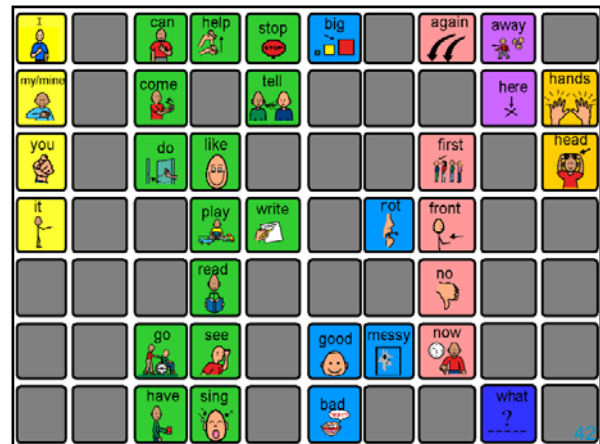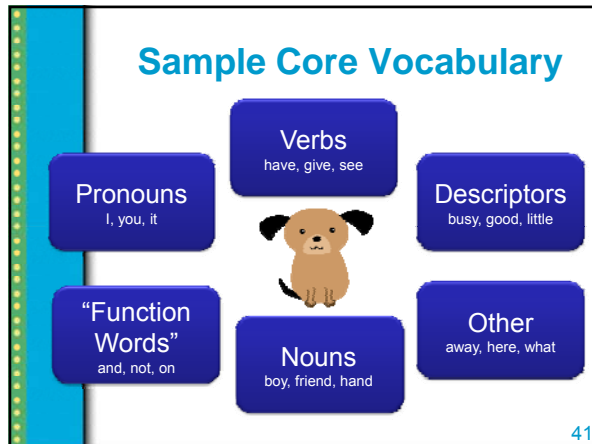
Shared Reading

- Teacher explicitly models the strategies and skills proficient readers use.
- Teachers and children read together repeatedly to explore, discuss, and enjoy the text.
- The text is fully visible to both teacher and children.

Shared Reading offers many opportunities to learn that...

- Reading is enjoyable.
- Books have pictures and print.
- The reader turns the pages
- When the reader reads, she is reading the marks on the page.
- The marks are letters.
- Letters make sounds.
- Letters make up words.
- The words make up sentences.
- The reader tracks print.
- There are other Concepts of Print.
- **Print has meaning!**

But mostly, shared reading is used to **teach language**.

Shared Reading is the context for core word practice.

"like"

"want"

"me"   "see"   "good"   "help"

Zangari & Soto, 2012

Slide 1

SAMPLE Shared Reading Lesson:
TELL ME CURRICULUM   Book 2

LESSON 5 At A Glance		
	ACTIVITY	MATERIALS YOU NEED
Setting the Stage

8 minutes | Music: If You're Happy and You Know It
Review core words
Locate highlighted words
Review FIRST page of the book
Establish purpose | If You're Happy and You Know It Song Poster
Word Cards
Word Card Board
Personal and shared SGDs
From Head to Toe Book
Piggy Pointer
Tiger Talk Board |
| Reading

5 minutes | Read the book | From Head to Toe book
Word Cards
Word Card Board
Personal and shared SGDs |
| Follow Up Activity

3 minutes | Create WHO poster | WHO poster template
WHO pictures to choose from
Story toys
Personal and shared SGDs |

Slide 2

LESSON 2 At A Glance		
	ACTIVITY	MATERIALS YOU NEED
Setting the Stage	Review core words
Establish a purpose
Review that pictures are different from words and review the concept of the first page	Word Cards
Word Card Board
Max's Breakfast book
Tiger Talk Word Board
Getting Ready to Read	Picture Walk	Max's Breakfast book
Word Cards
Word Card Board
Personal SGDs
Shared SGDs
Follow Up Activity	Core word practice
Music	Story toy
Personal and shared SGDs
This Is The Way Song Poster
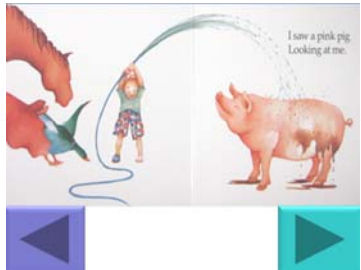
SETTING THE STAGE   *Review core words*
The teacher will remind the students that the day before they talked about the words ALL GONE   DOWN   WHERE   GET   ON. She will show them the word cards and review them by holding each one up, saying the word, and asking the students to repeat the words.

When the teacher says DOWN she will say, "Everyone look up. NOW look DOWN! I am going to put this book DOWN. IT is ON the floor. WHERE is IT? IT is DOWN!" Then she will say, "I am going to GET MY bubbles." The teacher should blow the bubbles toward the students. "The bubbles are going DOWN! Pop them." Once the bubbles have been popped, she should say, "The bubbles are ALL GONE! WHERE did they GO?" She will then say, "I will put the bubbles ON the table." The teacher may repeat this process depending on the students' ability to attend and their level of engagement.

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Slide 3

Switch-accessible Books on PowerPoint

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Slide 4

Book-related Songs

I Went Walking Song

I went walking and what did I see?

E-I-E-I-O

Five Little Monsters
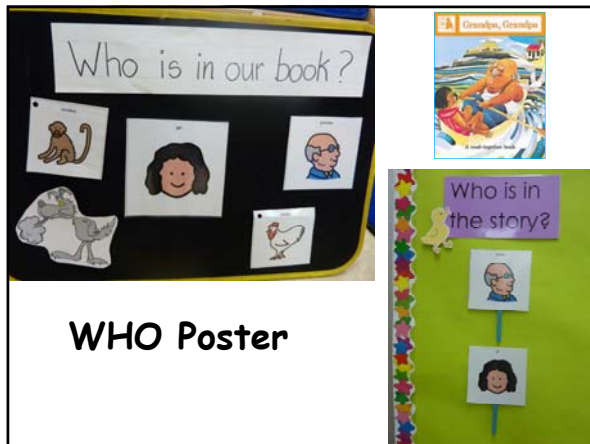
WHO Poster

WHAT Poster

- To teach story sequence
- To focus attention on relevant events/details
- To build retelling skills
- First… Then… Last

Story Map

- To practice visualizing the story and/or its details
- Using a visual structure to think about new information
- To focus on relevant details
- To sort new information into familiar categories
- To build skills related to:
  - Identifying the main idea
  - Describing
  - Retelling
  - Summarizing

Shared Reading Lessons Teach…

- Letter recognition
- Picture walks
- Core word practice
- Language
- Concepts of Print
- Establishing a purpose
- Active participation

- Word recognition
- Character identification
- Story sequence
- Idea mapping
- Fluent reading

Zangari & Soto, 2012

Shared Writing

Based on Zangari & Wise, 2011

Shared Writing

- Based on the Structured Language Experience Approach created by Patricia Cunningham.
- Uses predictable charts to engage ALL children in the writing experience.
  - "I see _____."
  - "At the park, I like to _____."
- Teacher and children compose text together. Teacher supports and writes as children dictate.

Predictable Chart

- Teacher chooses a topic.
- Teacher chooses a structure/predictable pattern for the children to follow. ("I feel happy when _____").
- Using the predictable structure, children learn
  - That they can dictate their sentences.
  - That they can read their sentences.
  - A lot about letters, words, and conventions of print.

Shared Writing Lessons Teach...

- Core word review
- Letter recognition
- Word recognition
- Letter activities
- Expressive writing (dictation)
- Reading
- Listening in a group activity
- Fluent reading
- Use of technology as an alternate presentation mode
- Name recognition

Slide 1

But mostly, shared writing is used to **teach language**.

Slide 2

Slide 3

SAMPLE Shared Writing Lesson:
TELL ME CURRICULUM   Book 2

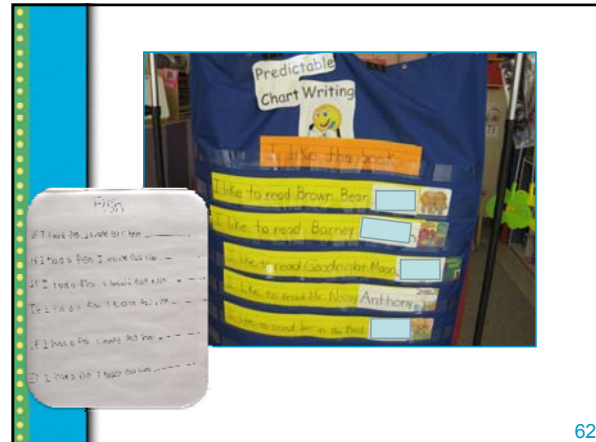|	LESSON 2 at a Glance	
	Activity	Materials You Need
Setting the Stage 5 minutes	Review story core words (say & repeat) Review title	Pocket chart Word/symbol cards
Writing 12 minutes	Begin sentence dictation w/ 2 adults + 2 children Read back sentences using SGDs Find an 'd'	Predicable chart with title & carrier phrase ["I LIKE to ___."] Markers Individual SGDs
Follow Up Activity 5 minutes	Letter-sound song for 'D' Letter Activity: Crayon Rub	Song Board Low tech SGDs with /d/

Slide 4

BEFORE WRITING

Review story core words (say & repeat)
The teacher will continue the say-and-repeat review of the BOW WOW words, showing the word/symbol cards, and placing them on the pocket chart. Facilitators will continue to support the children and will help them say the words on their SGDs, as needed. They will also support children learning Tiger Talk words (DIFFERENT and THERE) by pointing out those words on the child's SGD as the teacher says them.

Review title
Using the PPT chart book, the teacher reads the title of the predictable chart and points to each word as it is read. "NOW, let's READ our title. IT is, `WHERE Is The Egg?'"

WRITING

Clap sentences on PPT chart book
Using the PPT version of the chart, the teacher reads each sentence. Everyone claps each word as it is read. Facilitators will provide support as needed.

Core word hunt
"I need HELP! Let's find our special words." The teacher will show a few BOW WOW word cards and have children find them in the chart. For Tiger Talkers, the teacher may facilitate finding those words (DIFFERENT and THERE), if appropriate.

Find the special letter
"CAN YOU HELP me find our special letter, `u' NOW?" The teacher will pick a few children to look for the special letter for this book, 'u.' She will highlight the letter "u" in the chart text and remind

Zangari & Soto, 2012

Sample: Book 2, Day 2

- **Teacher:** "Let's WRITE about how we CAN move. Ms. Amy, your turn."
- **The teacher reads the first part,** "I like to _____," pausing so that the child/adult can finish the sentence with an SGD.
- **The teacher transcribes** the response. "I like to jump." (Amy)
- **Teacher:** "Let's READ WHAT we wrote." The teacher will read the chart line by line pointing to each word as she reads it. She will pause at certain points when the children can read along using their SGDs.
- The teacher leads the children in singing the letter song.
- Children participate in a Letter Activity.

10-day sequence of shared reading & shared writing lessons.

Literacy activities used to **teach language**.

Infusing Core Word Practice into the Preschool Day

Classroom activities are the context for core word practice.

"like"

"want"

"me"   "see"   "good"   "help"

Zangari & Soto, 2012

Why Infusion Activities?

To provide for multiple opportunities to practice core words

"I can do it."

"I see that."

To give teachers the flexibility to select what works for their classrooms

Arrival Time

- Sign announcing Book of the Week
- Songs for segmentation, rhyming, letter-sound correspondence, etc.
- Search arrival area for the Special Letter.
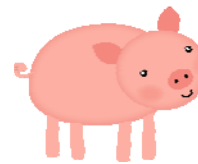
Circle Time

- Introduce core words
- Say & Repeat
- Modify songs to allow for children to say (or use SGDs) core words
- Search for Special Letter in Circle Time

Outside Time

- Monkey See/Monkey Do
  - Animal Action with Puppets
  - Blow Bubbles
- Froggie Find (scavenger hunt)

Froggie Find

Looking for	Found it
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐
☐	☐

Zangari & Soto, 2012

Quick Quack Questions

- During Snack Time
  - Beyond requesting
- Questions that give practice with book-related concepts and/or additional practice on core words
- Beyond choice-making
  - Build conversation skills by noticing and talking about other people/things

Who has fruit in their snack? "I do" with chart of fruit/no fruit

Who has an animal at home? "I do" with chart of animal/no animal

WHAT is your snack in? "I have bag/lunch box" with chart of bag/lunchbox

WHAT are YOU drinking? "I drink ____" with beverage chart

Centers: Buried Treasure

Bury animal story toys in rice/sand/shaving cream table. Prompt children to find the toys and practice saying core words.

"I found _____."
"YOU found _____."
"I SEE a _____."
"WHAT DO YOU HAVE?"

Centers: Theme Table

Things to see and touch	Pictures and photos of animals Books about animals
Things to smell	Animal food
Things to touch	Animal story toys Toy farm and other toy habitats Animal puppets Fabrics and other items of texture representing the feel of an animal (fur, feathers,...) Animal stamps and stickers
Things to hear	Language Master cards with pictures of animals and programmed with corresponding an...

Encourage children to say:
1. I smell _____.
2. I see _____.
3. I hear _____.

Zangari & Soto, 2012

Centers: Vocabulary Sort

- Children sort pictures or objects of story-related concepts
- They are asked to sort the pictures into their appropriate categories. Two shallow boxes, labeled with symbols representing each concept, can be provided for the sort.

Centers: Vocabulary Bingo

- Core words are made into laminated Bingo-type game board.
- All Turn It spinner is set up with the same vocabulary.
- Children can be helped to activate the spinner, say the word that they get, and cover it on the game board.
- They can label each word again at the end before finishing the activity.

Centers: Microphone Activity

Children are given an opportunity to practice core words, communication skills, and social skills while using a microphone during a fun planned activity.

Centers

- Art
  - Picture directions
- Cooking
  - Picture recipes
- Dramatic Play

Zangari & Soto, 2012

Art

The Lunch Box Surprise: Cat Puppet & Caterpillar Egg Carton

Cooking

The Lunch Box Surprise: Noodle Name & Fruit Salad

Zangari & Soto, 2012

Pretend Play

Dramatic Play (Approximate Time: 5 minutes)

Role-Playing: Provide the students with a chef's hat. This can be easily made using the included template. Students should pretend they are cooking breakfast. They can use pretend food for this activity. Be sure the practice core

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Core Language Matching

– Using the symbol set/system from their SGD, children can match symbols-to-symbols for core words.

Here Are My Hands:
Lotto Game

Here Are My Hands

Here Are My Hands
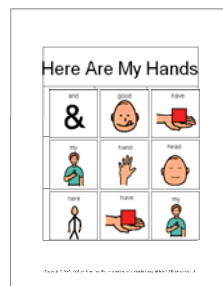
Centers: Alphabet Book

• Prepare a small alphabet book for the letter 's' for each child. Title: S is for _____ .
• Have a place on the title page where the children can write their names as authors. They can use stickers, symbols, or write their names.
• Have a set of small pictures that begin with that sound. The children pick pictures using their core words and glue them into the book.
• Have them glue the symbol for their word into their alphabet book.
• Read the book back when finished creating it.

Zangari & Soto, 2012

Other Alphabet Activities/Games

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Centers: Collage Building

- Children are provided with a prepared set of magazine pictures (related to book and core words) to be glued onto paper.
- These can be reviewed later and sent home for further discussion about core words.

Goodbye Time

- Review the sign announcing book of the week core words.
- Review QUICK QUACK QUESTIONS Chart.
- Assist children in using their core words as appropriate.
- Search the signs in this classroom area for the Special Letter; Talk about the sound it makes.

Incorporating Communication Aids

Zangari & Soto, 2012

Vocabulary Organized by Part of Speech

- Modified Fitzgerald Key
  - Agent, action, modifier/descriptor, preposition, conjunctions, objects, social
- Motor planning and automaticity: Try to give words a permanent home

Sample Core Word Board

Zangari & Soto, 2012
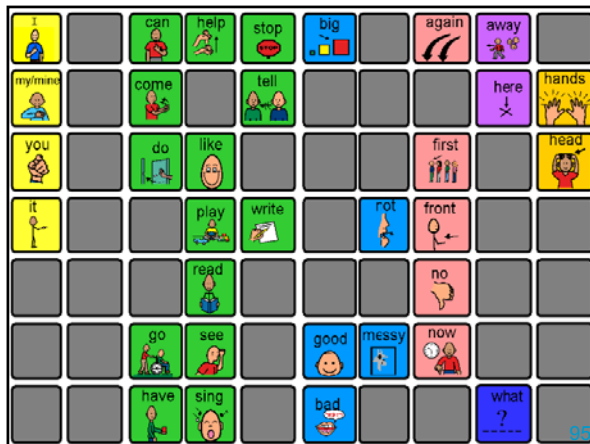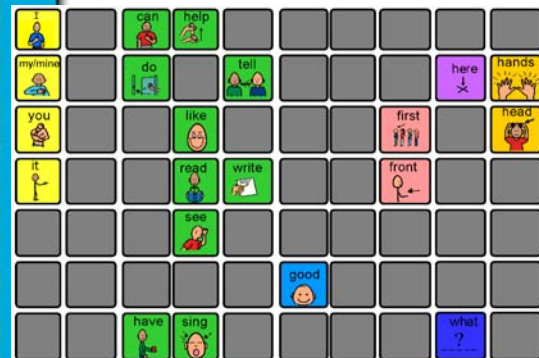
The Lunch Box Surprise

Shared Classroom Communication Devices

Personal SGDs

Mobile Devices & Apps

Zangari & Soto, 2012

Primary Apps

AAC
- Answers Yes/No
- Go Talk Now
- ProloquoToGo
- Tap Speak Button
- Tap Speak Choice
- Tap Speak Sequence
- Touch Chat

Other
- Pictello

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Lessons Learned

Manage your expectations.

Progress, not perfection

Adapt and make it your own
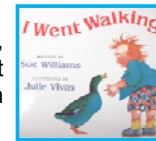
102

A Curricular Approach

- Framework you can replicate to meet your own needs for core vocabulary instruction with
  - Your own books, set of words, types of AAC, types of learners, age group, etc.
  - Ideas for group and individual instruction that is systematic and intense
  - Your preferences for activities
  - Flexibility to work within another more comprehensive curriculum

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Moving On

Elementary School

Zangari & Soto, 2012

Using the general education curriculum as a context for semantic instruction in the elementary grades

Policy and Practice Foundations

- Changing needs of students who need AAC
- Expanding Roles of School-based SLP
- Access to the General Curriculum Mandate
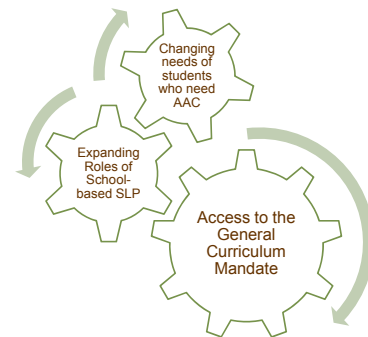
AAC in Schools

- General Curriculum is the primary CONTENT for the education of students with AAC needs

- General education instructional activities are the primary CONTEXT for delivery of intervention: i.e., targets and strategies need to be embedded in general education activities.

- For students with AAC needs, curriculum-relevant therapy is a kind of intervention that engages students in meaningful, relevant, results-oriented activities, leading to language development and academic participation.

Step One: Assessment-Know Your Student

- Language Level
- AAC System
- Student
- Academic Level
- AT Supports

Zangari & Soto, 2012

Slide 1 (table):

		Student: DR			**Activity:** Mayan Story and Comprehension Questions	
Task Analysis	**Skill Continuum**	**Student's Performance in Skill continuum**	**+/-**	**Adaptation for Access**	**Adaptation for Response**
1. Student will listen to introduction of activity	• Student must have adequate receptive language skills to comprehend spoken directions.	• Receptive vocabulary • Receptive morphology • Receptive syntax • Memory	+ + + -	• Visual schedule to reinforce lesson timeline.	• Student will point along with schedule to demonstrate awareness.
2. Student will "read" a story on the computer, and look at text and symbols from the story.	• Student must be literate and have adequate receptive language skills to comprehend spoken language and adequate visual perception to access text and symbols. Student must also have adequate memory and reasoning skills to identify main ideas of story.	• Receptive vocabulary • Receptive morphology • Receptive syntax • Adequate Visual Perception • Literacy • Symbolic Knowledge • Reasoning Skills • Memory	+ + + + + - - -	• Story adapted using Boardmaker Studio to include symbols along with the text. • Student will be read the story out loud by clinician. • Emphasis and repetition of main ideas to increase story retention.	N/A
3. Student will answer multiple-choice questions from a field of four to demonstrate comprehension of the story. (E.g. *Who is this story about?, Where did it take place?*)	• Student must have adequate receptive language skills to understand the question, make a selection out of four options, and have adequate expressive language skills to provide an answer. Student must also have adequate memory to recall key elements of the story.	• Receptive vocabulary • Receptive morphology • Receptive syntax • Memory • Executive function to choose one out of a field of four. • Ability to verbally express an answer. • Literacy • Symbolic Knowledge	+ + + + + - - +	• Multiple-choice questions adapted using Boardmaker Studio to include symbols along with text. • Choices presented with verbal and visual prompts.	• Responses indicated using direct selection using pointer finger. • Nodding, smiling, or laughing for "yes" and vocalizing and shaking head for "no" to confirm answers if unclear.

Slide 2:

Step Two: Identify Language Related Standards

- Reading
- Language
- Common Core ELA Standards
- Writing
- Listening & Speaking

Slide 3:
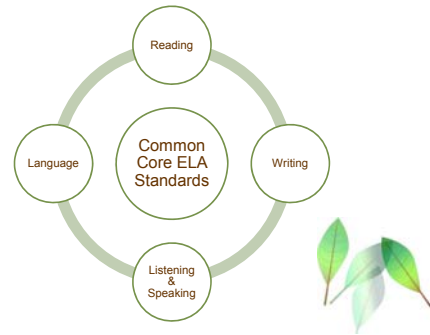
Standard
- Dense
- Substantial

Goal
- Specific skills
- Student language level

Slide 4:

Vocabulary Instruction

- Print-mediated activities: Shared Book Reading and Writing
- Thematic Units
- Modeling via expansions, recasting sentences, aided language stimulation, prompting
- Visual or concept mapping
- Explicit instruction

Zangari & Soto, 2012

Stages of Language Development

- Prelinguistic stage
- Single word stage
- Early sentence stage
- Short sentence stage
- Complete sentence stage
- Complex language stage

Single Word Stage

- Average expressive vocab. 50-100. Semantic roles:
  - Agent   (e.g., mom, dad)
  - Action   (e.g., up,, more, go)
  - Object   (e.g., dog, cat, ball, book, sock, chair, nose, foot)
  - Location (e.g., here)
  - Possession (e.g., mine)
  - Rejection (e.g., no)
  - Disappearance (e.g,. allgone)
  - Non existence and denial (e.g., no, allgone)
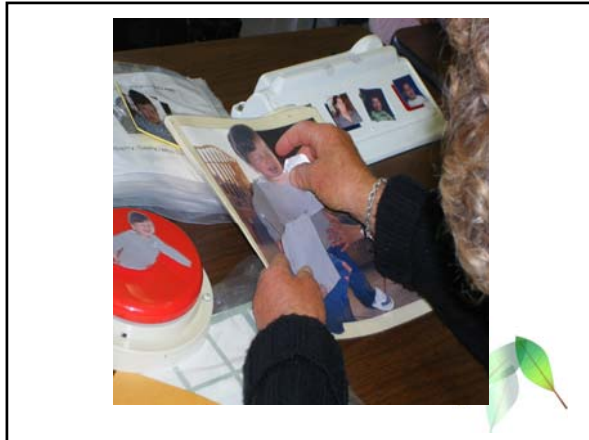
Zangari & Soto, 2012

Early Sentence Stage

- Onset of multi-word utterances (telegraphic; few grammatical markers):
  - Agent-action
  - Agent-object
  - Action-object
  - Action-location
  - Possessor-Possession
  - Demonstrative-entity
  - Attribute-entity

Short Sentence Stage

- Understanding and use of questions:
  - Object (what?)
  - People (who?)
  - Basic events (what x doing? where x going?)
- Learning words through linguistic contexts:
  - "Do you know what it means to sib? In this picture you can see sibbing"
  - "Do you know what a sib is? In this picture you can see a sib"

Zangari & Soto, 2012

Complete Sentence Stage

- Use of "why", "when" and "how" questions
- Understanding and use of basic spatial terms (e.g., under, in, on, etc.)
- Conjoined sentences

  For complete information consult Rhea Paul (2007). *Language Disorders.*

Shared Book Reading as a Context for AAC Intervention

- Can be used to establish, monitor and maintain joint attention

- It helps interpret the child's communicative effort

- It helps set vocabulary targets

- The quality of adult elicitation has been found related to child's language production (e.g., Justice & Kaderaveck, 2003; Soto et al., 2006)

  - binary choices
  - cloze procedures
  - open- ended constituent questions
  - and open-ended comprehension questions

- It is not mere exposure to the word what facilitates word learning but:

  - Repeated opportunities to retrieve it while answering questions

  - Explanations by the adult at the time the word occurs:
    - Providing synonym
    - Pointing to an illustration
    - Using descriptors and connectors

  Justice, Meier & Walpole, 2005; Senechal, 1997

Zangari & Soto, 2012

Pre-reading Activities

- Select and display the target words for the week
  - Core and story related

- Describe what the story is about emphasizing the target words and provide word definitions

- Find the word in device and model the use of the word in a sentence

During Reading Activities

- Read the story, check for comprehension
- Provide opportunities for word retrieval:
  - Text/Print Reference: "Look at the bunny jumping."
  - Cloze Procedure: "The bunny is…"
  - Expansion: "Yes, you are right. The bunny is jumping."
  - Binary Choice: "Is the bunny jumping or running?"
  - Pointing/Cueing: Modeling on the device
  - Open-ended questions: "What is the bunny doing?"

During Elicitation:

- Adult elicitation has to target those words

- Expect the child to participate

- Go from least to most:
  - "WHO is the story about?"
  - "Look at the picture, WHO is this?"
  - "Is the story about a FROG or a dog?"

Post Reading Activities

- Review the story and using the illustrations, a cloze procedure or a story map retell the story

- MODEL target words across diverse ACTIVITIES (e.g., carrot seed)

Zangari & Soto, 2012

Storybook Reading and Retelling Strategies
Oral Cloze Procedure
(Strong & Hoggan North, 1996; p. 63)

Mother and Father Goat thought that Gregory was a terrible (**eater**). All Gregory ate was _____(**fruits, vegetables, etc.**). His parents thought he should be eating _____ (**newspaper, boxes**, etc.). So his parents took Gregory to Doctor _____ (**Ram**). Dr. Ram told them to give Gregory one new _____ (**food**) every day until he eats _____ (**everything**). So, that's what Gregory's parents did, and Gregory began eating goat _____ (**food**). But his parents had a new problem. Now Gregory was eating everything in the _____ (**house**). So, Gregory's parents went to the town _____ (**dump**) and got him a huge pile of _____ (**junk**). Gregory ate it all up at one time and got a _____ (**stomachache**). He learned his lesson and started eating like an average _____ (**goat**), and he didn't _____ (**overeat**).

Storybook Reading and Retelling Strategies
Graphic Story Map
(Soto, Solomon-Rice, Caputo & Taymuree, 2007)

Who?	What happened?	Where? When?	How?	Why?	Feelings

Story Map

Who	What	When Where	How	Why	Who (action, feelings)
	First				
	Then				
	Last				

Story Map

Title of the Story

Who are the characters in the story?

Where did the story take place?

What is the problem in the story?

What happened first in the story?

What happened second in the story?

What happened last in the story?

How was the problem resolved?

Made by Becky Walden, SLP, Coweta County School System   10/03

Zangari & Soto, 2012

Measure Growth

- Use generalization probes (minimal support, e.g., open questions) and other contexts

- Count the NDW in child's utterance

- Count multi-word utterances

- Count story constituents

Strategic Vocabulary Overlay

Starts with	Similar to	Opposite of	Combination
ABC	◆ ◆	|←→|	
Sounds Like	Noun of	Action of	Return
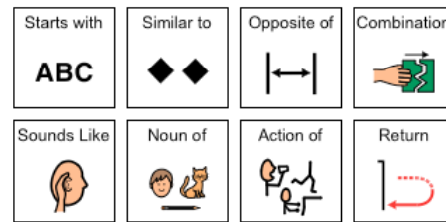
At the next level

- Pragmatics: Increase registers
  - Narrative Language
  - Exposition
  - Conversation

Objectives for Conversational Language

- To initiate and maintain a topic
- To use strategies to maintain your partner's attention
- To use strategies to control partner's influence in own story
- To use control strategies such as "error-try again"
- To use strategies that affect changes of register
- To use different language registers with different partners

Zangari & Soto, 2012

Activities for Conversational Language

- Conversation Books: Talking Photo Albums
- Role Playing
- Give someone instructions to complete a task : e.g. Potato Head, recipe...
- Conversational Games: e.g., who is who?
- Use of partner-focused questions
- Development and use of self-introduction: a card, a photo, a note on the wheelchair tray

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Moving On

Middle & High School

"A man with a scant vocabulary will almost certainly be a weak thinker. The richer and more copious one's vocabulary and the greater one's awareness of fine distinctions and subtle nuances of meaning, the more fertile and precise is likely to be one's thinking. Knowledge of things and knowledge of the words for them grow together. If you do not know the words, you can hardly know the thing."
— H. Hazlitt, *Thinking as a Science*

Middle & High School

What Kind of Vocabulary Learning Are We Talking About?

- Learning the meaning of new words
  - "I understand it when I hear it."
- Understanding how to use new words
  - "I know how to use it in a sentence."
- Actually using new words
  - "I use it when I talk."
- Deeper understanding of known words
  - "I know many different ways to use this word."
- Incorporating a rich lexicon
  - "I use a lot of different words when I talk."

Moving On: Beyond Core Words

- At this stage in their lives, students must learn 3,000-5,000 new words/year to stay on grade level.
- If they did that primarily through reading, they would need to read:
  - Approximately 1.7 million words in textbooks
  - 25-35 books outside of school
  - *Per year*

(Honig, 1996)

Zangari & Soto, 2012

We can't teach all the words they need to learn, but we CAN **influence their awareness of & desire to learn new words**

How do we do this?

By creating a culture where kids **notice** & **think about** words

- Focused language stimulation
- Explicit instruction
- Engaging activities
- Repeated exposure

General Instructional Sequence

Introduce the new word: **Focused language stimulation**

Explicit instruction activities

Elaborate with engaging practice activities

Repeated exposure

Check for understanding

Based on Archer, 2008 143

Focused Language Stimulation

Zangari & Soto, 2012
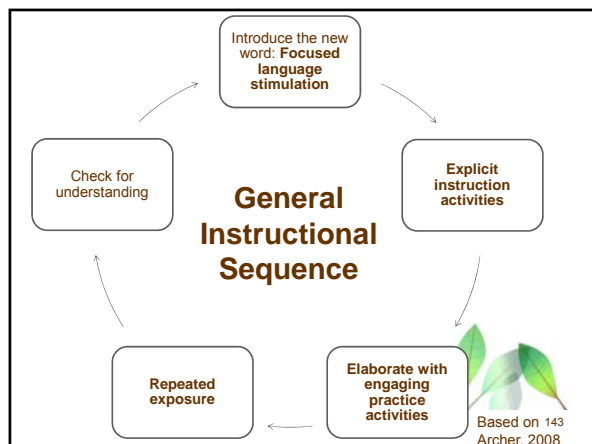
Focused Language Stimulation

- Explain new word meanings when they are first used.
  - Using student-friendly definitions
    - E.g., "I expect a lot of <u>effort</u> from you. Effort means '<u>trying hard</u>.'"
- Give multiple examples to link the known and unknown words.
  - E.g., "Great job on your quiz. I bet you <u>tried hard</u>. I bet it took a lot of <u>effort</u> to learn that."

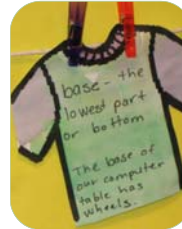(Dickinson, Cote, & Smith, 1993)

Focused Language Stimulation

- Auditory bombardment with target words

"Put it at the *bottom* of the page."
VS.
"Put it at the <u>base</u> of the page. Where? The *bottom*. The <u>base</u> of the page."

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Focused Language Stimulation

- Pronounce it
- Segment it
- Have students say it
  - Using AAC (e.g., spelling it out on SGD) or natural speech
  - Develop 'inner voice'

- E.g., "One of our new words is <u>productive</u>. It is an adjective or describing word. I'll help you spell it so you can say the word with me… Productive. Good, I'll say it for you by syllables: pro 'duc tive. Now let's say it together: productive. Excellent!"

Explicit Instruction

1. Experience new words **repeatedly** in context
2. Link new words to students' prior knowledge
3. Connect new words with other words that are semantically- related

Zangari & Soto, 2012

Beyond student-friendly definitions

- Raise awareness through self-assessment
- Provide visual supports
- Describe words. Explain attributes.
- Make the words meaningful.
  - "Where have you heard this word before?"
  - Connect them to the student's life experience
  - Tell stories that feature the key words

What else?

- Relate them to known words
  - Make associations
  - Similarities & differences
- Give positive & negative examples of its usage.

Avoid: Memorizing Definitions

Rote memorization of words and definitions is the **least effective** instructional method resulting in **little** long-term effect.

(Kameenui, Dixon, & Carnine 1987)

Issues with a Dictionary Definition Approach

1. Definitions often use other words that the student doesn't understand.
2. Dictionary has multiple definitions & that can be confusing.
3. Lacks any sort of context.

Zangari & Soto, 2012

Go beyond student-friendly definitions

launch
to set something in motion

The large rockets _launched_ the space shuttle into orbit.

Synonyms:
start
begin
go forward

intend
to plan to

Because the family _intends_ to go on a picnic, they packed the cooler.

ancient
very old

These pyramids were built in _ancient_ times.

Synonyms:
long ago
old-fashioned
out-of-date

Synonyms:
mean
expect
aim
be determined to

Photos from Ann Fausnight (www.DevotedtoVocabulary.wordpress.com)

Introducing New Words

- Within meaningful context
- Supported by a student-friendly definition
- Related to known words
- Made clear with exemplars

The Power of Contrast

1. "This is LUB."

2. "This is **not** LUB."

Instructional Activities

- Classroom-based Approaches
  – What are the expectations?
  – A specific approach or process may already be in place; Find out what it is
  – Can be a good starting point
  – You may need to guide the team in making modifications for language learning purposes
- Experiential Activities
- Other Vocabulary Teaching Activities

Zangari & Soto, 2012

Sample Word List from A State DOE for 6th Grade Social Studies

Ancient	Anthropology	Interdependence (economic)
Civilizations	Republics	Class
Irrigation	Caste	Dynasty
Middle Ages	Cultural diffusion	Hieroglyphics
Monarchy	Archaeologists	Dark Ages
Nomadic	Theocracy	Classical
Technological	Philosophy	Cartouche
Empire	Geologist	Plague
Epics	Polytheism	Mythology
Feudalism	Cuneiform	Medieval
Renaissance	Globalization	

Word Wizard Approach
(Parsons, Law, & Gascoigne, 2005)

- Addresses vocabulary teaching using both semantic and phonological methods
- Individual sessions (25-35 minutes)
- Process involves
  - Finding out what student already knows about the word
  - Using a consistent set of steps to learn new words (Worksheet)
    - Attending to sound and meaning

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How do we learn new words?

Think of sound   **Think of meaning**

- It starts with ....
- It rhymes with ....
- It has .... syllables.

Parsons, Law, & Gascoigne, 2005

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Word Wizard Process

- Introduce word of the day
- Find out what they know about it
- Consistent structure for new word learning
  - **Focus on phonological aspects** (i.e., initial phoneme, rhyming, segmentation
  - **Focus on meaning**
- Extension activities (e.g., hands-on, practical activities, language experiences)
- Target word bombardment
- Link to known words.
- Add new info to the semantic web based on knowledge gained in extension activities

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Zangari & Soto, 2012

Consistent framework for thinking about new word learning

words?

Think of sound   **Think of meaning**

- It starts with ....
- It rhymes with ....
- It has .... syllables.

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Parsons, Law, & Gascoigne, 2005

Marzano Steps for Academic Vocabulary

Step 1: Teacher will give a description, explanation, or example of the new term.

Step 2: Teacher will ask the learner to give a description, explanation, or example of the new term in his/her own words.

Step 3: Teacher will ask the learner to draw a picture, symbol, or locate a graphic to represent the new term.

Step 4: Learner will participate in activities that provide more knowledge of the words in their vocabulary notebooks.

Step 5: Learner will discuss the term with other learners.

Step 6: Learner will participate in games that provide more reinforcement of the new term.


Language Experiences

- Challenging at this age level
  – Can be discussion-oriented
- Memorable, especially if emotion is involved
- Examples: False, Assume
  – Explored an app about a **productive** inventor who grew up feeling different
  – Led to discussions about what people **assumed** that were **false** about the student

---

It's Cool To Be CLEVER
The Story of Edson C. Hendricks –
the genius who invented the design for the Internet

Zangari & Soto, 2012

Language Experience Surveys

- "Tell me about a time you were <u>shocked</u>."
- "Did you ever do anything <u>extravagant</u>?"
- "What do you own in <u>abundance</u>?"
- "Tell me about something you did that took a lot of <u>effort</u>."

Emotional Component

165
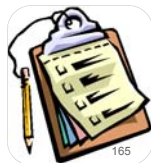
Vocabulary Sorts

- Have the advantage of being low cognitive and physical effort
  – Allows a focus on the linguistic learning
- Relatively quick; Students generally like them, especially when they are interactive
- Single words
  – Yes/no, positive/negative
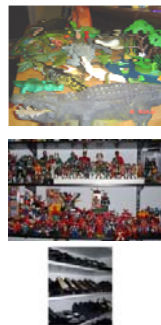 – Contrasted with an opposite
- Word Pairs

"Effort"

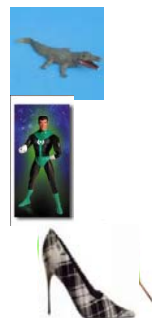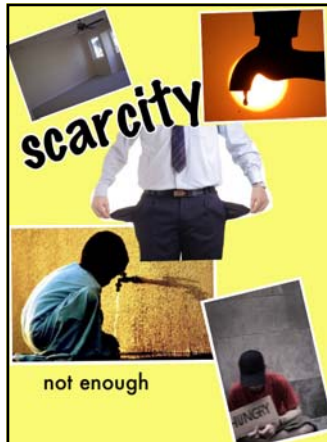Magazine pictures; Therapy materials you already have (picture cards)

Yes

No

Abundance | NO Abundance

Zangari & Soto, 2012

Frustrated / Not Frustrated

Frustrated

Not Frustrated

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"Effort"

Can also do by labeling the materials sticky notes

A lot of effort

Little or no effort

Collages can also be useful.

Things that take a lot of **effort**.

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Abundance

scarcity

not enough

Make vocabulary collages on tablets & smart phones.

E.g., PicCollage for iOS & Android:

Word Sort

PROFESSOR DUMBLEDORE	GINNY	HAGRID
ancient	hopeful	tender
knowledgeable	youth	colossal
influential	immature	compassionate

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Word Pair Sort

WORD PAIR	SAME	OPPOSITES	GO TOGETHER	NO RELATION-SHIP
base-top		X		
base-foundation	X			
base-aside				X
base-down			X	

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Many classrooms use worksheets.

Work with school AT people to make them **accessible on the right device**:
•AAC device
•Computer
•Tablet
•No tech

3 CLOUDS   name: Aaron   date: Sept. 4

content

happy   like it   feel good

•At the **appropriate level**
•With the **appropriate content**

In the **right environment**
•Different classrooms
•Library
•Home

Zangari & Soto, 2012

Think of **Sound**

Think of **M...**

Since worksheets are not AAC-friendly, we have to make sure they get adapted.

New Word:

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Think of **Sound**

Think of **Meaning**

It starts with ___.
It rhymes with ___.
It has ___ syllables.

New Word:

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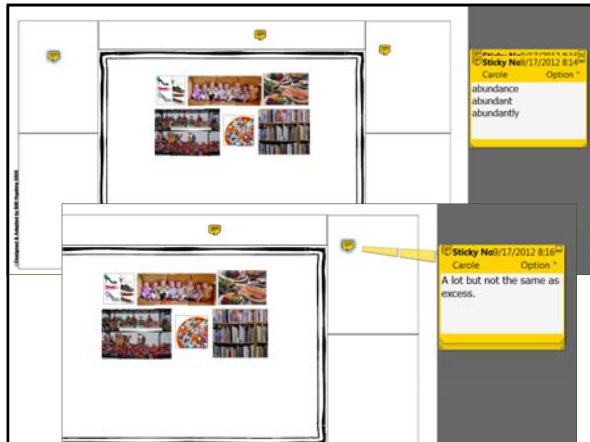## Scanned to PDF

Diagram & Labels
name:
date:
Topic

This is a diagram of:

Example: PDF Worksheet Annotated with Acrobat

Sticky No...11/17/2012 8:14
Carole   Option
Ms. Hernandez likes quiet in abundance.

This is a diagram of:

Zangari & Soto, 2012

PDF Turned into a Form with Text Boxes

3 CLOUDS   name: date:
Topic

Submit by Email   Print Form

date:

7th grade student – by hand

1. External Conflicts   3. Internal Conflicts

7th grade student – using Adobe Reader

Atomic models

For each theory below, explain the main idea of the model.

1808 DALTON MODEL	1897 THOMSON MODEL	1913 BOHR MOD
I wish I can remember this!	I feel the same way about the model	

From Assistive Tech All Learners

Zangari & Soto, 2012

Don't have access to a scanner?

Can also take a picture & convert to PDF from there.

Helpful Resources for Adapting Worksheets or Assessments

- PDF Converters (free)
  - http://www.pdfonline.com
  - http://www.freepdfconvert.com/
  - https://www.fillanypdf.com/
- Using Word or PDF:
  - Video http://bit.ly/RfDam7
  - Handout: http://bit.ly/RfYqbm; http://bit.ly/RfBXvc
- **Apps**: Noterize; GoodReader; iAnnotate PDF; PDF Notes; Type on PDF
- **UDL ToolKit**: http://udl-toolkit.cast.org

Completion Activities

My friends **persuaded** me to _____ .

It would be fun to **decorate** a _____ .

It takes a lot of **effor**t to _____ .

> These open the door for discussion.

Yes/No Questions

1. "Should you **assume** all dogs are friendly?" [Why?]
2. "Are students who stay up late **productive** in school?" [Why?]

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Zangari & Soto, 2012

Matching Activities

New Words

1. folks — another word for people
2. diary — book that we write in every day; journal
3. sea — another word for ocean
4. kin — family; someone you care a lot about

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Qualitative Rating Scales

Hate it   Okay   Love it

"How would you feel if…"
1. "Your dad was <u>persuaded</u> to buy a TV?"
2. "Your friend <u>berated</u> you."
3. "Your mom <u>obtained</u> a new car."
4. "Your teacher <u>produced</u> a very hard test."

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Qualitative Rating Scales

A little   Some   A lot

"How much time does it take to:"
1. "read a <u>periodical</u>?"
2. "<u>meander</u> through the neighborhood? "
3. "<u>inhale</u> deeply?"
4. "<u>saunter</u> around the mall?"
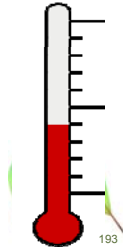
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Sentence Substitution

Provide word banks
- We were embarrassed to hear the doctor <u>berate</u> her patient.

  reward, insult, remind, persuade

- The boy was <u>commended</u> for returning the wallet he found.

  belittled, praised, informed, supported

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Zangari & Soto, 2012

Set an Expectation for Lexical Diversity

- Introduce the concept of lexical diversity
- Rate this sentence
  - 5=Fun & Interesting
  - 1=Boring
- Make a list of over-used words
  - Brainstorm alternatives
- Keep visual reminders
  - Add to them as needed
  - E.g., Tired Words; Vivid Verbs

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Photos from eberopolis.blogspot.com & MrsSherring

Photos from Scholastic.com & lilac.edublogs.org

From Teaching Madness

Zangari & Soto, 2012

Engaging Activities

Engaging Activities

Providing: **Gives us:**
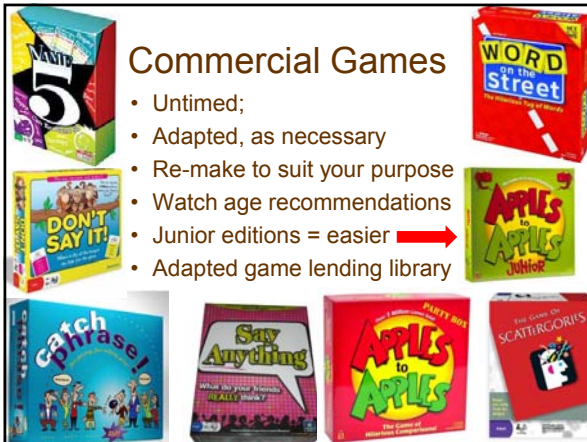- Emotional salience ➡️ A memory advantage
- Repetition with variety ➡️ Something for every learner
- Choice ➡️ An autonomy boost

Commercial Games
- Untimed;
- Adapted, as necessary
- Re-make to suit your purpose
- Watch age recommendations
- Junior editions = easier ➡️
- Adapted game lending library

Guessing Games

•Show a number of target words (e.g., productive, assume, false)
•Give clues so that students can guess which target word is the answer

▪"Liars tell things that are _____."
▪"The diamond wasn't real; it's _____."
▪"She was hoping the quiz had true and ___ answers"

Zangari & Soto, 2012

Guessing Games

•Give a bank of vocabulary words.
•Present word associations.

Targets: rotund, romp, colossal

•"I'm think of a word that:"
  •"means *very large*"
  •"goes with *walking*"
  •"is related to *circle*"

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Helping Verbs
(Sung to the tune of "Jingle Bells")

•Helping verbs, helping verbs, There are 23:

•Am, is, are, was, and were; being, been & be.

•Ohhhhh, has, have, had; do, does, did,

•Shall, will, should and would.

•There are 5 more helping verbs:

•May, might, must, can, could.

Music

Photo from crazyspeechworld.blogspot.com

Apps & Computer Activities

• Fun, engaging
• Beyond the scope of what we can do today
• See Handout at:

Repeated Exposure

"Knowledge unused tends to drop out of mind. Knowledge used does not need to be remembered; Practice forms habits and habits make memory unnecessary. The rule is nothing; the application is everything."
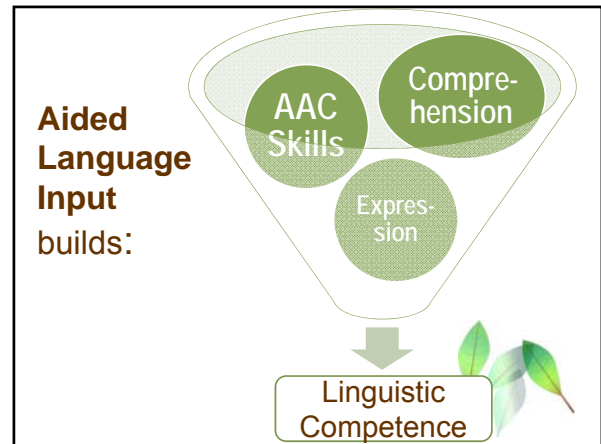— H. Hazlitt

Zangari & Soto, 2012

10-15

Minimum # of Repeated Exposures in Meaningful Contexts

Aided Language Input builds:

AAC Skills
Compre-hension
Expres-sion

Linguistic Competence

Keep vocabulary words visible.

• Concept of "round-the-clock vocabulary" by **Karen Bromley**

Photo from www.allsewnup.com

WORDS TO TALK ABOUT | TIMES USED

vibrant
stylish
reluctant
retreat
exhausted
envy
originality

From RealClassroomIdeas.com

Words to Talk About	Times Used in Conversations

Zangari & Soto, 2012

It's Not About Word Lists, Quizzes, or Test Scores

Vocabulary learning takes them closer to literate language & academic success.

Not just learning brand new words (like *abject & propensity)* but also…

- Learning more about words they already know something about (*abundant, sage, divest, consider*)
- Using more words in their conversation and writing (e.g., *Laugh: Chuckle, giggle, guffaw*)

"As vocabulary is reduced , so are the number of feelings you can express, the number of events you can describe, the number of the things you can identify! Not only understanding is limited, but also experience. Man grows by language. Whenever he limits language he retrogresses!"
- S. Tepper,

Thank You!

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