




Partners in Literacy and Learning

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Demographics of Illiteracy

Who is functionally illiterate?
(i.e., read below 6th grade level)

- 13% of high school students
- 85% of teens in juvenile courts
- 79% of adult prisoners
- 79% of welfare recipients
- 85% of school drop-outs
- 72% of the unemployed

--Making the Grade: A Report Card on American Youth



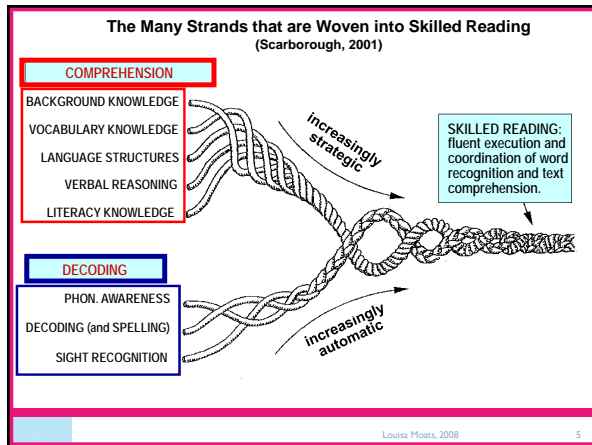
Oral versus Literate Language

• <u>Oral</u>	• <u>Literate</u>
◦ innate	◦ must be taught
◦ contextualized	◦ decontextualized

A "Simple Model" of Reading

- **Decoding** – focus on **form**
 - Alphabetic principle
 - Sight word recognition
- **Comprehension** – focus on **making sense**
 - Vocabulary
 - Narrative skills
 - Verbal reasoning

Gough, P.B., & Tunmer, W. (1986). Decoding, reading, and reading disability. *Remedial and Special Education*, 7, 6-10.



Subtypes of Reading Disability

		Word Recognition	
		Poor	Good
Listening Comprehension	Good	Dyslexia	Non-specific
	Poor	Mixed	Specific comprehension deficit

Kamhi & Catts, 2012

Causes of Reading Disabilities

- **Extrinsic**
 - absence of joint book reading
 - reading instruction
 - “Matthew effects”

Causes of Reading Disabilities

- **Intrinsic**
 - nearly 80% of dyslexia can be explained by one or more genes that influence reading ability (Gruen et al 2005, 2011)
 - Genes known to affect reading
 - KIAA0319
 - DYX1C1
 - DCDC2
 - ROBO1

Causes of Reading Disabilities

- **neurology--not focal lesions like in acquired RD; individual differences found in diffuse sites--temporal, occipital, parietal lobe**

Kamhi & Catts, 1999

Causes of Reading Disabilities

- Poor executive function affects:
 - **Planning**
 - **Working memory**
 - **Cognitive flexibility**
 - **Fluency**
 - **Response inhibition**
 - **Sustained attention**

Predictions

- Language delays in pre-k and kindergarten predict reading disorders in 3rd grade (Scarborough, 1990) and in 8th grade (Catts et al., 2006).

Add Poverty to the Mix...

- Children from low-income backgrounds start school behind their peers in:
 - Language ability
 - Phonological awareness
 - Print knowledge

Whitehurst, Adamson, & Romski, 1997

According to research at Cambridge University, it doesn't matter in what order the letters in a word are. The only important thing is that the first and last letters are in the right place. The rest can be a total mess and you can still read it without a problem. This is because the human mind does not read every letter by itself, but the word as a whole. Amazing huh?

Intervention

“Teaching reading IS rocket science.”
- Louisa Moats

Rationale for SLP involvement

- Spoken language problems affect written language.
- Listening comprehension affects reading comprehension.
- Instruction in spoken language can result in growth in written language and vice versa.

Bring your SLP gifts!

- Inferencing: not all Why-questions are created equal!
- Teaching blending is easiest in CVC words, composed of voiced continuants.
- Common spelling errors include consonant substitutions with the same place or manner (e.g., t/d, m/n).

Roles for the SLP

- address narrative skills as a bridge from oral to literate language
- advocate for instruction in decoding
- include literacy skills in assessments
- incorporate activities that build oral language *and* build base for literacy

Roles for the SLP

- identify and remediate early problems in phonological awareness
- incorporate written language experiences in intervention (e.g., left-to-right progression and letter identification)
- help students with attention and memory
- teach later linguistic targets: “meta” verbs, words with multiple meanings

Five Critical Components
(National Reading Panel; NCLB)

- **Phonemic awareness**
- **Phonics**
- **Vocabulary development**
- **Reading fluency**
- **Reading comprehension**

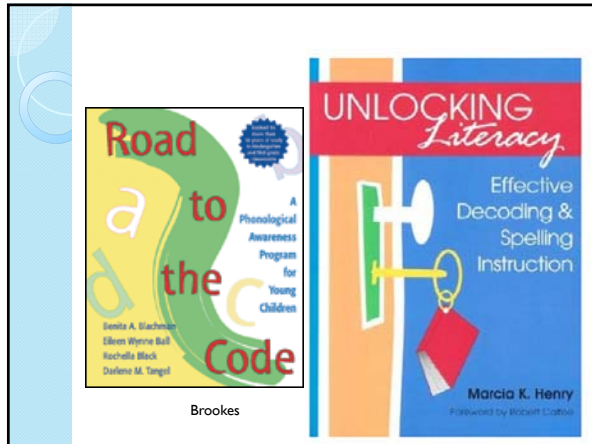
Is there a “best” treatment?

- No, but effective programs share some common strategies:
 - training in word study;
 - engaging students in using comprehension strategies while reading;
 - writing activities;
 - and guided and independent reading of progressively more difficult texts.

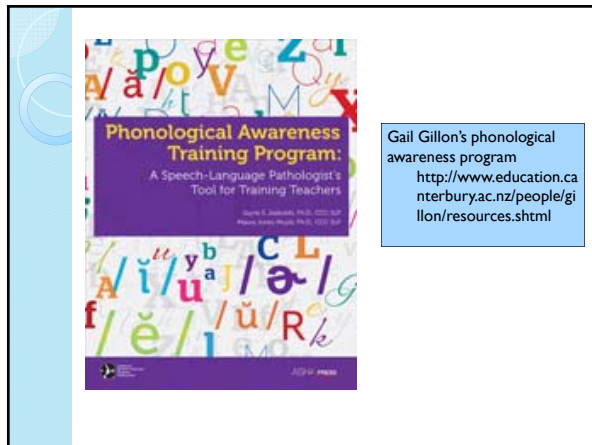
Word Study

5 linguistic knowledge areas form the foundation:

- phonemic awareness
- morphological awareness
- semantic knowledge
- orthographic knowledge
- mental orthographic images.



Brookes



Gail Gillon's phonological awareness program
<http://www.education.canterbury.ac.nz/people/gillon/resources.shtml>

PA

- **Metalinguistic skill**
- Phonological awareness: ability to attend to syllable structure, prosody, onset, rhyme (early stage)
- Phonemic awareness: ability to perceive that speech is made up of a series of sounds (later stage)
- **Crucial role in spelling and reading**

Phonological Terms

- **Phonological processing:** using info about sound structure of speech to process oral and written language
- **Phonological awareness:** ability to attend to how a language sounds (e.g., rhyming, counting words and syllables)
- **Phonemic awareness:** knowledge that words are composed of sounds and sounds are composed of features
- **Phonics:** instructional practice which emphasizes how spellings are related to speech sounds in systematic ways

Components of Phonological Awareness


■ Listening ■ Sentence □ Syllable □ Onset-Rime ■ Rhyming and Alliteration ■ Phoneme

PA

• Rhyming


PA

- Syllable awareness




PA

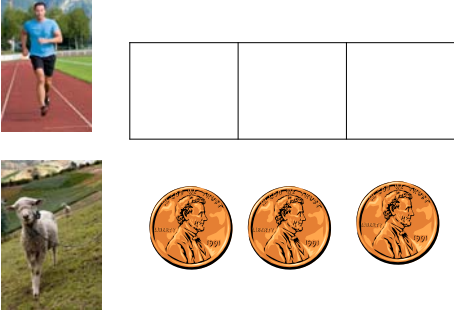
- Syllable awareness



PA Identifying Stress



Elkonin Boxes – sound awareness




The image shows three visual aids for Elkonin boxes: a person running, a dog, and three pennies. To the right of these images is a grid of three empty boxes for writing.

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PA

- Onset-rhyme identification



The image shows three McDonald's cups and several yellow sticks, used for onset-rhyme identification activities.

Most Common Phonograms (Spelling Patterns) Found in Words Children Read and Write

ack	<i>back</i>	ap	est	ing	ot
ail		ash	ice	ink	uck
ain		at	ick	ip	ug
ake		ate	ide	it	ump
ale		aw	ight	ock	unk
ame		ay	ill	oke	
an		eat	in	op	
ank		ell	ine	ore	





Phonemic Awareness

Phoneme-grapheme mapping

t	ou	gh		
kn	ow			
sh	e	ll		
s	t	r	ea	m
th	r	ough		

Morpheme Review

- **Free morphemes** – can stand alone
 - boy, case, run, in, the, fast
- **Bound morphemes** – word segments attached to a free morpheme
 - **Inflectional** – do not change basic meaning (e.g., apple/apples - still fruit)
 - past –ed, present progressive –ing, possessive 's, plural -s
 - **Derivational** – change meaning and/or grammatical class of the free morpheme
 - vote/voter, quick/quickly

- >50% prefixes are **un-, re-, in-, and dis-**
- > 75% suffixes are inflectional: noun endings (-s, -es), verb endings (-s, -es, -ed, -ing, -en), adjective endings (-er, -est).
- <25% suffixes are derivational (e.g., -y, -ly, -ial, and -ic)

Promoting Vocabulary Development –Texas Reading Initiative

Morpheme instruction for children with speech sound disorders

- Use language-based approach, combining early morphology and phonology goals in this order:
 - Early free morphemes (in, on)
 - -ing
 - Irregular forms (mouse-mice, think-thought)
 - Syllabic forms (horses, patted, pushes, fuzzy, bigger)
 - Non-syllabic forms where root word ends in V (shoes, Joe's, goes, tried)
 - Non-syllabic forms where root word ends in C (ducks, walks, bowled)

Targets addressing both phonology and morphology

- **Therapy goal = CR**
 - Plurality – boat-boats, cup-cups
 - Reg. Past – walk-walked, kiss-kissed
- **Therapy goal = FCD**
 - Plurality – toe-toes, key-keys
 - Possessive – Ray-Ray's mama-mama's
 - Reg. Past – show-showed
 - 3rd pers. Singular – I go-he goes

Tyler, 2002

Advanced Morphology

- **Activities** (e.g., Apel & Masterson, 2001; Berninger et al, 2003; Wolter, 2005; Wolter, in press; Wolter & Green, in press):
 - Word building: given cards with prefixes, affixes or roots, combine to make words (un+clear, salt+y); make some silly words (e.g., unhamburger, unbig, unsleep)
 - Morpheme finding: find roots and affixes in texts
 - "Memory" with roots and derived forms
 - Word sorts (e.g., suffix or not?– summer, farmer, hammer, baker, singer, father; prefix or not? undo, under, unable, uncle)

Adapted from Wolter & Squires, ASHA 2012

Word Families
(adapted from Wasowicz, Apel, Masterson & Whitney, 2012)

Family members can:

- **Look or sound alike and be related**
 - swim – swimming
 - slip – slipped
- **Look or sound different and be related**
 - divide – division
 - explode -explosion
 - music – musician
- **Some words** look or sound alike but are NOT related
 - car-carrot
 - fort-fortunate

Are teacher and teach related?
Are mother and moth related?
Are brother and broth related?

Wolter & Squires, ASHA 2012

Advanced Morphology

Past tense = 3 response classes

/t/	/d/	/ɪd/
matched	preferred	invented
blessed	hummed	knotted
walked	saved	ended
stepped	played	boarded
coughed	filed	painted

Morphology Wheel

• Root word

• Students brainstorm derived forms

Prefix re-

Repeat action

reheat

refill

Go back to previous condition

recover

replace

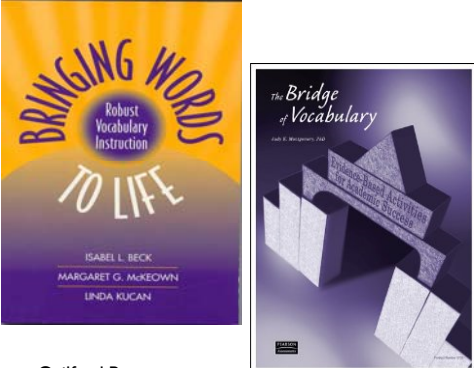
Where would these words fit: restart, rewire, renew, retreat, review, recharge, redo, retrace, return

Vocabulary Growth

- How many words does an elementary student need to learn every day?
- 1st – 3rd grade
6 words per day
- 4th – 6th grade
12 words per day

Vocabulary Growth

- Hart & Risley—children from low SES know ~ half as many words and the gap tends to increase over time
- Intensive vocab intervention before 3rd grade yields best outcomes Ziolkowski & Goldstein, 2010
- Vocabulary in grade 1 predicts more than 30% of grade 11 reading comprehension (Cunningham & Stanovich, 1997).



Bringing Words to Life: Robust Vocabulary Instruction
ISABEL L. BECK
MARGARET G. MCKEOWN
LINDA KUCAN
Guilford Press

The Bridge of Vocabulary
Evidence-Based Activities for Student Success
Mark W. Beatty
Pearson

Choosing Target Words

There are three tiers of vocabulary words:

	Frequency	Meaning	Use in Intervention	Examples
Tier I	High: likely to be learned incidentally	General	Should not target directly in instruction	cold mistake
Tier II	Useful across a variety of settings	New words for learned concepts.	Should target directly in instruction	chilly error
Tier III	Rare	Highly specific to a particular domain	Provide brief explanations of word meanings, but do not focus on directly	arctic faux pas

Steele & Mills, 2011

What Tier?

- clock
- baby
- create
- injure
- explore
- integer
- surprise
- organize

- location
- explain
- family
- igneous
- monarch
- variety
- purchase
- asphalt

- table
- plateau
- construct
- obvious
- alliteration
- orange
- similar
- demonstrate

Tier I

- clock
- baby

- surprise

- family

- table

- orange

Tier 3

<ul style="list-style-type: none">integer	<ul style="list-style-type: none">igneousmonarchasphalt	<ul style="list-style-type: none">plateaualliteration
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Tier 2

<ul style="list-style-type: none">createinjureexploreorganize	<ul style="list-style-type: none">locationexplainvarietypurchase	<ul style="list-style-type: none">volumeconstructsimilardemonstrate
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Vocabulary Targets to Consider


<ul style="list-style-type: none">Metalinguistic and metacognitive verbs:<ul style="list-style-type: none">implypersuadeobserveidentifysuspectexplaindecide	<ul style="list-style-type: none">Curriculum words with multiple meanings or grammatical functions<ul style="list-style-type: none">roundtablecircleaveragediagram
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SSTARS strategy - Hanen

- Stress the new word.
- Show what the word means.
- Tell what the word means.

And

- Relate the word to personal experiences.
- Say the word again.


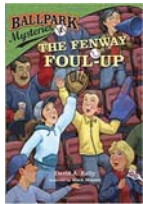


Memory

- students need both *storage strength* and *retrieval strength*

Improve memory with association

- Words presented in logically organized structure are remembered 40% better than words presented randomly.



baseball	mitt	uniform
coach	manager	base
umpire	catcher	pitcher
home run	catch	shortstop
pitch	outfield	refreshments
stands	hotdog	peanuts
team	rain	steal
safe	out	strike
ball	mascot	dugout
foul ball	inning	hit

B	I	N	G	O
cold	February	winter	coat	ski
snowman	wind	storm	snowflake	mitten
sleet	scarf		chimney	December
January	snow	iceberg	jacket	hot cocoa
glacier	ice	fireplace	cloud	ice skate

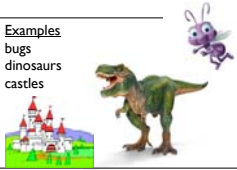
www.dltk-cards.com



Frayer Model


Longman.com
for student-
friendly
definitions

Definition	Characteristics
WORD	
Examples	Non-examples

Semantic Map: Four Square

<p><u>Target word</u> fascinating</p>	<p><u>Examples</u> bugs dinosaurs castles</p> 
<p><u>Student generated definition</u> Something that makes you want to pay attention</p>	<p><u>nonexamples</u> math bedtime my brother</p>


Semantic Map: Four Square Variation	
<u>Target word</u> Logical	<u>Student generated definition</u> Something that is normal and makes sense
<u>Illustration of the target word</u> 	<u>Illustrated silly sentence</u> Fluffy was not a logical choice for the new class pet. 

Encouraging Deep Processing	
	Examples <ul style="list-style-type: none"> • Winning a prize • Getting 100 on a test
	Non-examples <ul style="list-style-type: none"> • Breaking a leg • Losing your phone
	Meaning <ul style="list-style-type: none"> • Extremely good • Excellent
Marvelous	

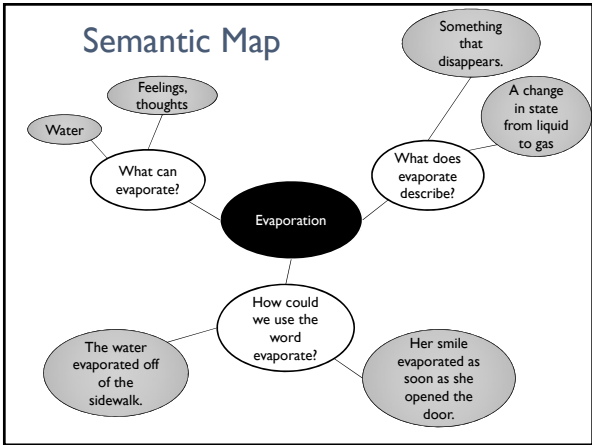
Encouraging Deep Processing	
<ul style="list-style-type: none"> • Provide a sentence stem using the word. <ul style="list-style-type: none"> ◦ Paul thought his car was <i>marvelous</i> because... • Use the word with other new vocabulary words. <ul style="list-style-type: none"> ◦ Is a masterpiece <i>marvelous</i>? Why? ◦ The movie was the best he had ever seen. Am I talking about <i>marvelous</i> or <i>discover</i>? • Relate the definition to personal experiences. <ul style="list-style-type: none"> ◦ The family had a <i>marvelous</i> time at the park. ◦ How could a family have a <i>marvelous</i> time? ◦ When have you had a <i>marvelous</i> time? 	

Visual Organizers

- Semantic Maps
 - Target word in center
 - Students brainstorm categories, relationships, features, and examples
 - The features are then grouped together and listed on the semantic map
 - Group discussion and brainstorming is more effective than individual maps

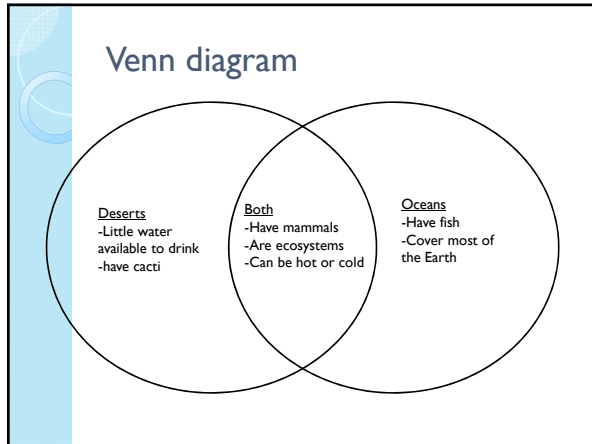


Steele & Mills, 2011








We **store** information by **similarities**.



We **retrieve** information by **differences**.



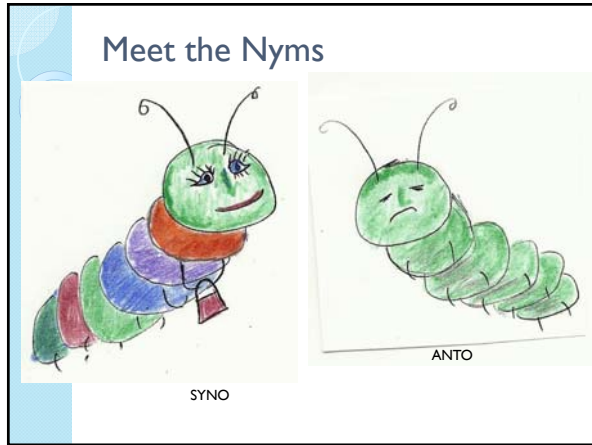
Semantic Features with Phonemic Cues

Emotion Word	Type Of Emotion	How Strong	Sounds Like
Thrilled	Happy	A lot	
Elated	Happy	A lot	
Exasperated	Mad	A lot	
Irritated	Mad	A little bit	
Melancholy	Sad	A little bit	

Keyword Strategy Examples

Heave	Heavy	Rowdy	Crowd
To lift something that is really heavy		Acting wild and loud	

You Try It! Keyword Strategy			
Carnivore		Incarcerate	
Creature that eats animal tissue		Lock up; confine in a jail	



West Virginia Department of Education

Vocabulary Development

Research emphasizes that vocabulary development is a vital part of all content learning, but it has long been ignored. The link between vocabulary knowledge and comprehension is undeniable. While word reading increases a student's vocabulary significantly, teachers must realize that direct and explicit instruction in vocabulary must also occur daily in all classrooms. Students enter school with vastly different levels of word knowledge. Teachers must build a rich environment in which to immerse students and teach and model sound learning strategies. Because research shows that having students look up words and write definitions is the least effective way to increase their vocabulary, this page features many strategies and methods for teachers to use in classroom instruction.

- Vocabulary Graphic Organizers
- Vocabulary Strategies
- Word Fluency
- Vocabulary Tips & Tools

Links to Vocabulary Websites:

- Promoting Vocabulary Development: Components of Effective Vocabulary Instruction - PDF <http://www3a.state.wv.us/departmentofeducation/>
- Vocabulary Development - PDF <http://www3a.state.wv.us/departmentofeducation/strategybank/strategybank/vocabulary/vocabulary.pdf>
- Building the Foundations of Literacy: The Importance of Vocabulary and Spelling Development <http://www3a.state.wv.us/departmentofeducation/strategybank/strategybank/vocabulary/vocabulary.pdf>
- ACT/SAT Test Prep: Vocabulary Development <http://www3a.state.wv.us/departmentofeducation/strategybank/strategybank/vocabulary/vocabulary.pdf>
- Learn an 8th Grade Vocabulary (SAT Prep) <http://www3a.state.wv.us/departmentofeducation/strategybank/strategybank/vocabulary/vocabulary.pdf>

<http://wvde.state.wv.us/strategybank/vocabulary.html>

Reduce cognitive load by providing instruction in groups

Distributes working memory load among children (Paas & Sweller, 2013)

Some Strategies for Facilitating Comprehension

- 1. Visuals
- 2. Priming Background Knowledge
- 3. Scaffolding Inferences
- 4. CROWD Strategy
- 5. Story Mapping
- 6. Repeated Readings

Gately, S. E. (2008) Facilitating reading comprehension for students on the autism spectrum. *Teaching Exceptional Children*, p.40-45.













Summarize a Text with Pictures

Hatchet
By Gary Paulsen

Brian Robeson is thirteen and lives with his mother in New York City. He gets on a plane to fly to his father's house in Canada. The pilot gets sick and the plane crashes. Brian is all alone in the woods. He has nothing to help him but the hatchet his mother gave him as a present.

Brian has many problems to get the things he needs to live. He is lucky that he has his hatchet to help him. First, he is very hungry. Brian finds berries and turtle eggs to eat. Using his hatchet, he is able to make a spear. With the spear he catches fish to eat. Brian is scared and lonely. He builds a fire by making sparks fly from his hatchet to catch bugs on fire. He hopes that the fire will help others find him. The light from the fire protects him from bears and other animals during the night. Sometimes, the weather is windy and rainy. Brian builds a shelter for himself by using the hatchet to cut down branches from the trees in the woods. Brian spends many weeks in the woods by himself.


After a storm, Brian sees the plane in the lake. He builds a raft with branches and vines he cut with his hatchet. He uses the raft to get to the plane. He finds a pack of supplies that is filled with food and a radio. Brian turns the radio on and is soon rescued by a man in another plane. Brian and his hatchet return home. Brian is proud of himself that he was able to live on his own. He tells his mother that with his hatchet he can do anything.

Texas Education Agency 2010


The text on this and the following two slides was modified based on the literary text *Hatchet* by Gary Paulsen.

Brian uses his hatchet to help him live by himself in the woods.




Summarize a chapter with pictures

Brian made a spear to catch fish to eat.



Brian made a fire to scare away animals.



Texas Education Agency 2010

Cause - Effect or Problem - Resolution

Brian's Problem	How his hatchet helped
Brian got hungry.	
Brian got scared.	
Brian had no home.	
Brian had no way to get help.	

He cut lots of wood for a fire to scare away animals.

He made a spear to catch fish.

He built a raft to get to the airplane in the lake and radio for help.

Texas Education Agency 2010

Manipulatives/Props

- Manipulation of objects with 1st and 2nd graders improved comprehension and retention (Glenberg et al, 2004)
- With manipulatives, LI children showed increased % of questions and greater MLU (Kaderavek & Justice, 2005)

2. Priming Background Knowledge

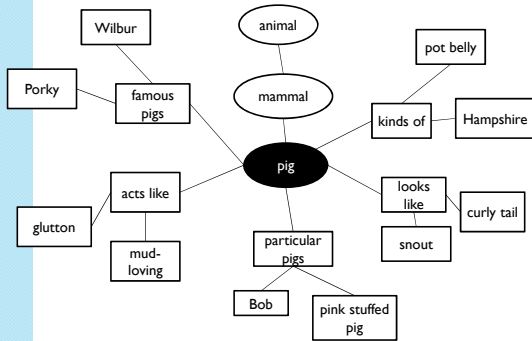
- Connect what they know to new knowledge and skills.
- Moves info from long-term storage to cognitive desktop.

Picture/Book/Article Walks

- Help children develop expectations about what might occur in the text.
- Make predictions from title, cover, illustrations.

Warning: Contradictory relationships can occur between text and illustrations.

Priming Background Knowledge - Semantic Map



3. Scaffolding Inferences

TEXT

• “Oh lovely mud,”
said the pig.

“Just look at you!”
she screamed.

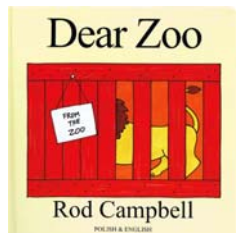
BOOK TALK

• Here is a pig. He sees some mud. Pigs like to play in mud. The pig wants to roll in the mud.

• Mrs. Wishy-Washy is looking at the muddy pig, and she is not happy. She wants the pig to be clean, but he is dirty.

Inferencing: Goldilocks and the Three Bears






Event knowledge needed: zoos are not places where you go to get pets

4. CROWD Strategy:
Completion Questions (Cloze)

- Target: Linguistic structures, vocabulary
 - “Papa Bear was angry because Goldilocks did not ask. . .”
 - Permission!

CROWD Strategy:
Recall Questions

- Target: memory for story content
 - “Whose chair did Goldilocks break?”



CROWD Strategy:
Open-ended Questions

- Target: Paraphrasing, identifying emotions and motivations
 - “How do you think Goldilocks felt when she woke up and saw the bears?”

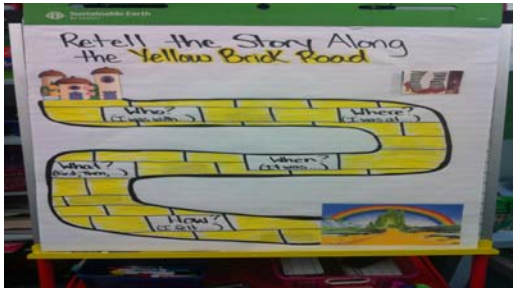
CROWD Strategy:
Wh- Questions

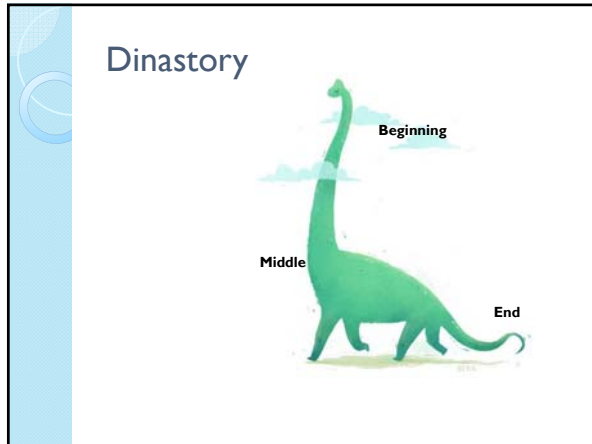
- Target: New vocabulary and story details
 - “What is porridge?”
 - “What do you think *shy* means?”

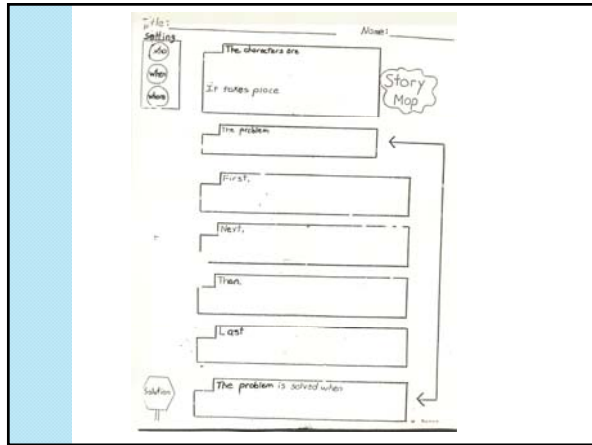
CROWD Strategy:
Distance Questions

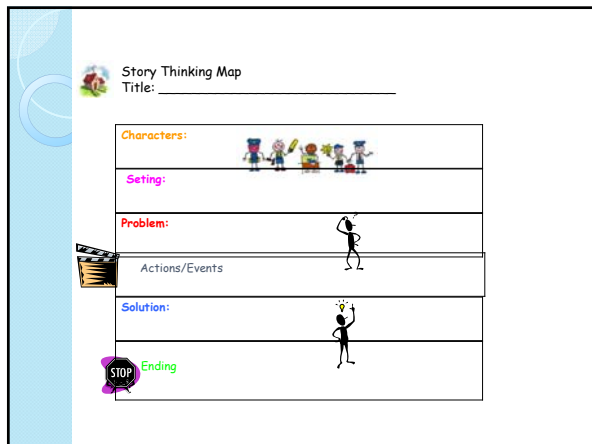
- Target: Linking book events to students’ own experiences.
 - “Does your family eat porridge for breakfast?”

5. Story Mapping











Who-did-what

- List events in simple story frames.
- Example: Goldilocks and the Three Bears

Who	Did what
1. 3 bears	Went for a walk
2. Goldilocks	Went into bears' house
3. Goldilocks	Ate porridge
4. Goldilocks	Sat in chairs
5. Goldilocks	Slept in beds

Who-did-what

- Use color as cues (e.g., main character).
- Insert transition words.

Who	Did what
1. First 3 bears	Went for a walk
2. Then <u>Goldilocks</u>	Went into bears' house
3. Next <u>Goldilocks</u>	Ate porridge
4. After that <u>Goldilocks</u>	Sat in chairs
5. Finally <u>Goldilocks</u>	Sleeps in beds

Who-did-what

- Example: Sarah, Plain and Tall

Who	Did what
1. Anna's mother	Died
2. Anna	Takes care of family
3. Father	Writes newspaper ad
4. Caleb	Waits and hopes
5. Sarah	Answers the ad

Summary by Jason

Jason K.
Setting the house
characters chic sister
brother mom
dad bullies boy
Problem the bullies
went up and
went to the clouds
then let go of him
Solution a boy got his
and they were friends
Ending he went home

Narrative Elements & Culture

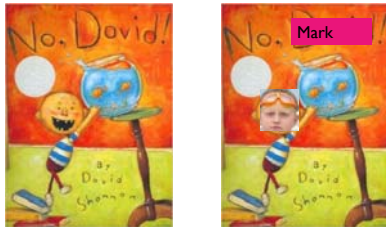
- Common across cultures:
 - Setting
 - Initiating Event
 - Attempt
 - Consequence
 - Resolution
- Example elements that differ:
 - Internal response
 - Identification of main character at the beginning

Prath and Palafox, 2017

6. Repeated Readings

- Repeated readings of stories:
 - enables children to reenact the story (Sulzby, 1985)
 - increases children's comments and questions about stories (Yaden, 1985)
 - improves children's ability to interpret and evaluate stories
(as cited in Gambell, Morrow, & Pennington, 2000)

Repeated readings with a twist!





Resources



Autism Asperger Publishing Co Bilingualistics

Online Resources

- The Center for Literacy and Disability Studies
 - <https://www.med.unc.edu/ahs/clds>
- Paula Kluth
 - www.paulakluth.com
- Storylineonline.net
- MrsP.com
- Gail Gillon's phonological awareness program
 - <http://www.education.canterbury.ac.nz/people/gillon/resources.shtml>
- Between the Lions
 - www.pbskids.org/lions

Online Resources

- Storycove.com
- Starfall.com
- Thebookchook.com
- Professorgarfield.org
- RIF Reading Planet
 - <http://www.rif.org/kids/readingplanet.htm>
- Wisconsin Educational Communications Board - Into the Book reading program
 - <http://reading.ecb.org/>



“No skill is more crucial to the future of a child, or to a democratic and prosperous society, than literacy.”

- Los Angeles Times, "A Child Literacy Initiative for the Greater Los Angeles Area"
