METACOGNITIVE INSTRUCTIONAL STRATEGIES WITH VISUAL SUPPORTS FOR TEACHING AND LEARNING

Dr. Carolyn Ford, CCC-SLP
University of South Florida
Tampa, Florida
cford@usf.edu

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DISCLOSURE
Financial: Other than honorarium for this presentation, the speaker has no other financial ties to the content of this presentation.

Non-Financial: I have no nonfinancial disclosures.

LEARNING OUTCOMES
- Plan language lessons in the before, during, and after phases of instruction that incorporate metacognitive strategies
- Use metacognitive skills to build children's background knowledge.
- Use metacognitive strategies to build children's summarization and inferencing skills to improve student outcomes in the classroom.
- Use metacognitive instructional strategies to teach vocabulary, morphology, and syntax.
- Use metacognitive strategies to build oral language skills.

THE FACTS ABOUT PROFICIENCY
- 26% of 12th graders are proficient in Math.
- 38% of 12th graders are proficient in Reading.
- Scores on the NAEP are unchanged since 2009.
- International data indicates 8% of 15 year olds score at level 5 or 6 in reading.
- Within the US and internationally there is room for improvement.

O'Reilly & Sabatini, 2016

HOW DO WE FILL IN THE GAPS?
- Use an approach that combines strategy instruction with appropriate assessments.
- Expand what it means to be proficient.
  - e.g., Common Core Standards.

LOOKING BEYOND THE SURFACE
“Reading Comprehension”
- Comprehension of complex sentence constructions
- Comprehension of complex syntactic constructions
- Understanding of multiple perspectives
METACOGNITIVE INSTRUCTION

WHAT IS METACOGNITION?

“What is Metacognition?”

- Knowing about knowledge
- Compromises conscious knowledge of what one is expected to do and strategies for doing it

“Executive functioning”

- Planning how to do the task and implementing the plan
- Also known as self-regulation

Foundations for Metacognition and Self-Regulation in Reading

Executive Functions

- Theory of Mind
- Working Memory
- Inhibitory Control
- Cognitive flexibility

Capacity to hold and manipulate information in our heads over short periods of time.

Ability to filter thoughts and impulses to resist temptations and distractions. Pause and think before acting.

Capacity to switch gears adeptly and adjust to changed demands, priorities, or perspectives.

Executive Functions (EFS) (Wesby, 2004)

Cognitive and Metacognitive Strategies

Cognitive Skills

- Intentionally performed strategies to influence learning and cognition
- Enhance understanding
- Aid in difficulties with comprehension
- Compensate for weak or imperfect knowledge

Metacognitive Skills

- Self-monitoring
- Evaluate level of difficulty
- Monitor ongoing performance

Garjria & Jitendra, 2016

Goal: How to learn

Rather than: What to learn

Garjria & Jitendra, 2016
FOUR PRONG STRATEGY FRAMEWORK

Preparing to Read
- Metacognitive and self-regulatory strategies
- Strategies to go Beyond the Text

Interpret Ideas, Sentences and Words in Text

Strategies to Organize, Reconstruct, Synthesize

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TEACHING STYLES

Metacognitive development is dependent on education and practice (Schneider, 2010)

Adults promote self-regulatory development by emphasizing the use of reasoning and verbal rationales, conceptual questioning, praise and encouragement, gradual relinquishing of control, and direct relinquishing statements (Wesby, 2014)

- Children develop an internal locus of control by seeing themselves as active, effective agents in their environment (Dias et al., 1992).

Metacognitive talk during teachers’ lessons can have a significant positive effect on children’s metacognitive strategy use (Wesby, 2004).

CHILDREN WHO HAVE LEARNING DISABILITIES IN READING COMPREHENSION HAVE DIFFICULTY WITH:

Vocabulary
- Recognizing and Recalling Details
- Drawing Conclusions
- Predicting Outcomes

Due to a lack of metacognitive skills

LANGUAGE

Employing metacognitive strategies in reading requires considerable language skills

3 components of metacognitive/metalinguistic knowledge (Schunk, 2001)

Declarative or factual knowledge about the cognitive and linguistic aspects of the texts to be read

Procedural knowledge for how to use the declarative knowledge

Conditional knowledge about when to use the declarative and procedural knowledge and why it’s important

LANGUAGE ARTS STANDARDS ACROSS GRADE LEVELS

Reading: Informational Texts
- Key Ideas and Details
- Craft and Structure
- Knowledge & Ideas
- Range & Level of Text Complexity

Writing: Text Types & Purposes
- Production & Distribution of Words
- Research to Build & Present Knowledge

Reading: Literature
- Key Ideas & Details
- Craft & Structure
- Knowledge & Ideas
- Range & Level of Text Complexity

Reading: Foundational Skills
- Print Concepts
- Phonological Awareness
- Phonics and Word Recognition
- Fluency

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TH GRADE SPEAKING & LISTENING STANDARDS

- Engage effectively in a range of collaborative discussions
- Read and be prepared to discuss
- Follow agreed upon rules of discussion
- Report on a topic; tell a story using relevant facts
- With diverse partners on grade 4 topics and texts
- Report on a topic using descriptive details
- Differentiate when to use formal English
- Review key ideas expressed by others
- Building on others' ideas & expressing their own clearly
- Pose and respond to specific questions; contribute by linking to remarks of others
- Adhere to a logical progression in your discussion

INTERVENTION

Treatment goals should be linked directly to curriculum content and the language of instruction.

- Treatment should include building metacognitive and metalinguistic skills by:
  1) Learning lexical, semantic, and syntactic patterns that are partially familiar to them.
  2) Providing multiple exposures to these patterns.
  3) Making decisions about relating these patterns to classroom reading and writing.

SAMPLE ACTIVITIES TO SUPPORT WORKING MEMORY

- Unscrambling words to create grammatically correct sentences.
- Cloze sentences where children select appropriate prepositions, pronouns, conjunctions, or articles to create grammatically correct sentences.

PARAGRAPH CLOZE ACTIVITY

Show students how to complete the activity in stages, and model for them the kinds of decisions that skilled readers make as they process text.

- First, read the whole paragraph, showing students how to get an overall sense of the topic.
- Then, use a think-aloud procedure to work through the blanks, drawing attention to the context clues that help narrow the possible choices.

METACOGNITIVE INSTRUCTION

- Planning Before, During, After Reading Instructional Protocol Handout

Videos

Semantic Gradients
**TEACHING STRATEGIES**

http://hubpages.com/education/What-Causes-Poor-Reading-Comprehension

**READING AND LEARNING STRATEGIES**

Strategies are effortful and conscious activities

When to select strategies?

- Metacognition
- Self-Regulation
- Strengthen material for later recall

How do strategies help?

- Reduce memory load
- Simplify complex ideas
- Enrich context
- Make implicit explicit
- Provide organization framework
- Make connections

**INSTRUCTIONAL AND INTERVENTION IMPLICATIONS** (WESBY, 2014)

Components of instruction to facilitating self-regulation in reading comprehension:

- Teach emotion words and metacognitive vocabulary
- Foster the use of non-immediate language
- Model self-regulation
- Teach students to set goals for reading
- Teach a few research-validated comprehension strategies
- Combine strategy instruction with content teaching
- Motivate and encourage students to use their strategies and monitor their comprehension
- Stimulate students to reflect on their performance

**PRONG 1: PREPARING TO READ**

Goal: promote goal setting, activation of relevant knowledge, schematic and frames, question generation to guide reading

Preview

- Review the title, chapter headings, bold and italics words and chapter review questions.

Know, What, Learn

1st preview text, 2nd read text and find question answers and 3rd write what you have learned.

Purpose: Activate relevant knowledge and provide idea on what text is about.

**PRONG 2: INTERPRET WORDS, SENTENCES AND IDEAS IN TEXT**

Word Level

- Dictionaries to find meaning
- Surrounding context to infer meaning

Sentence Level

- Reread the text
- Paraphrase

Idea Level

- Inference training
- Knowledge of Organizational Patterns/Text Structure

**PRONG 3: STRATEGIES THAT GO BEYOND THE TEXT**

Goal: Build upon or extend what was read and remembered.

Strategies

- Generate Questions
- Use background knowledge
- Consult other sources for future reading
- Visualization or Imagery
- Elaborating meaning of text

Have students to elaborate and enrich the text representation.
PRONG 4: STRATEGIES TO ORGANIZE, RECONSTRUCT AND SYNTHESIZE

Goal: Strengthen the mental model by focusing on the global and interconnected elements of the text.

Graphic Organizers
- Depict the text structure

Concept Maps
- Represent knowledge and highlight relationships

Summary Writing
- Concise writing representations of the text

These strategies decrease memory burden and highlight organization

HOW TO INTEGRATE RESEARCH: DESIGN

1. Give a quiz on relevant background knowledge before reading text.
2. Sequence tasks to model learning and study strategies.
3. Provide clear expectations of what is required of the students.
4. Build collaborative groups to share understanding.
5. Include the reading strategies into the assessment design.

STUDY GROUP SCENARIO

<table>
<thead>
<tr>
<th>Section</th>
<th>Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 1</td>
<td>Practice: What do you already know?</td>
</tr>
<tr>
<td>Section 2</td>
<td>Read and Summarize important text.</td>
</tr>
<tr>
<td>Section 3</td>
<td>Consider evidence and connect science to policy.</td>
</tr>
<tr>
<td>Section 4</td>
<td>Understand and apply scientific terms.</td>
</tr>
<tr>
<td>Section 5</td>
<td>Say it in your own words.</td>
</tr>
<tr>
<td>Section 6</td>
<td>Review scientific data.</td>
</tr>
<tr>
<td>Section 7</td>
<td>Check your understanding.</td>
</tr>
</tbody>
</table>

INSTRUCTIONAL AND INTERVENTION IMPLICATIONS

Components of instruction to facilitating self-regulation in reading comprehension:
- Teach emotion words and metacognitive vocabulary.
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INSTRUCTIONAL AND INTERVENTION IMPLICATIONS

Teach a few research-validated comprehension strategies.
Combine strategy instruction with content teaching.
Motivate students to use their strategies.
Stimulate students to reflect on their performance.

EVALUATING SELF-REGULATION IN READING COMPREHENSION

Self-regulation strategies students use in reading have been evaluated through 3 procedures:

- Interviews and questionnaires
- Think-aloud methods
- Error detection tasks

Students are asked about the processes they use in reading.
After reading, students are asked everything they think.
Students identify a contradiction or an error in a text.
ERROR DETECTION

- Two aspects of comprehension monitoring:
  - Evaluation: involves noticing the comprehension problem and
  - Regulation: involves the process of repairing the problem once it has been detected (Wesby, 2014).

Types of errors/inconsistencies in texts:
- Lexical: a nonsense word or difficult vocabulary word is unknown
- External inconsistency: inconsistency between the readers’ prior knowledge and text information
- Internal inconsistency: inconsistency between the elements in the text (Gardner, 1987).

HELP STUDENTS MAKE CONNECTIONS

- Use metaphors and analogies
- Use examples
- Personalize the content
- KWL and other visual supports
- Authenticate the content - have students do and think

VOCABULARY STRATEGIES

Examples: Most office workers are encouraged to take short respites during the day. For example, they go to the water fountain or a friend’s office to chat.

Restatements: All instruments used during an operation must be sterile. They have to be free of germs.

Similes: Capillaries are like tiny pipelines that connect veins and arteries.

Metaphors: The bean-shaped mitochondria are the cell’s power plants.

Summary: The wealthy man enjoyed raising money for charities. He gave large sums of his own money to homes for orphaned children, soup kitchens, and shelters for the homeless. He also turned one of his homes into a school for needy children. He was one of the best-known philanthropists.

METAPHORS AND ANALOGIES

- Analogies are a comparison between an object or idea in one domain and another domain,
  - Analogy is more critical and extensive than a metaphor
  - Analogy is more creative and extensive than a metaphor

- Metaphors are used to describe and clarify new ideas.

- Making connections between seemingly dissimilar things.

ANALOGIES

Begin with a discussion of the many ways in which words can be related
(e.g., synonym, antonym, cause-effect, category-example, part- whole, adjective, etc.).

Lead the class in a discussion of words that would complete the second half of the analogy.

Model the process of identifying the relationships between the first two words in each analogy.
PERSONALIZE AND AUTHENTICATE THE CONTENT

Make personal connections.

Connect with examples.

Connect to background knowledge.

Use authentic therapy materials

Personify (stepping into the mind of another person or object) (Zwiers, 2006).

KWL charts can be used to share background knowledge.

Great free graphic organizers:

https://blogs.adobe.com/digitalmarketing/personalization/8227/

EXAMPLE OF ACTIVITY PROCESS

Summary

Thought coded as "R" (Reminds us of...)

Thoughts coded as "E" (Explanation of thought or feeling)

Share Ideas and make a chart

EXAMPLE

Questions on sticky note

Sort into categories

Place sticky notes on Africa chart

Adapted from (Harvey & Goudvis, 2007, pp. 91-108).

BUILD COMMUNICATION

http://jeffzwiers.org

STRATEGIES

Rephrase what students say

Have students paraphrase

Conduct meta discussions

Teach how to make arguments

Adapted from (Harvey & Goudvis, 2007, pp. 91-108).
FINDING THE MAIN IDEA

**R.A.P. Acronym!**

- **R**ead a paragraph.
- **A**sk a question. (What was the main idea and key details?)
- **P**ut information into your own words.

The “Paraphrasing Strategy, R.A.P.” was developed by Schumaker, Denton, and Deshler (1994) for use with expository text.

- This must be done in complete sentences.
- This task also allows for comprehension monitoring to take place.

REPHRASE WHAT STUDENTS SAY (ZWIERS, 2014)

- For younger children, this is known as “recasting”.
- Model more developed clauses and sentences.
- Clarify student’s responses.
- Model higher level vocabulary.

REPHRASE WHAT STUDENTS SAY (ZWIERS, 2014)

- Be more conscious and explicit with your rephrasing.
- Let students know you value their responses.
- Combine rephrasing with other types of modeling.

PARAPHRASE (ZWIERS, 2014)

Model by paraphrasing a paragraph into one or two sentences.

Model nominalization (changing verb phrases to nouns) and use of dependent clauses, teaching more complex syntax.


Model by paraphrasing a paragraph into one or two sentences.

Model nominalization (changing verb phrases to nouns) and use of dependent clauses, teaching more complex syntax.

https://www.youtube.com/watch?v=FSv3A7fefBQ

AUTHOR’S PURPOSE

**P**ersuade - to convince the reader of a certain point of view

**I**nform - to teach or give information to the reader

**E**ntertain - to hold the interest of the reader through enjoyment

**P**urpose is easy as PIE!

SUMMARIZATION

Four components of rule-governed summarizing strategy according to Brown and Day (1983) and the National Institute for Literacy (2007).

- Identify and/or formulate main ideas
- Connect with the main ideas
- Restate and delete redundancies
- Restate the main ideas and connections using different words and phrasings

All steps should be taught explicitly, with teacher modeling, guided practice with controlled materials, corrective feedback, and independent practice.
**ACTIVITY PROCESS**

First: Model how to summarize a text by reading one to two paragraphs from an article such as “In Sickness and in Health,” and then by writing a summary in your own words. Model on whiteboard to show the students how to bracket off a section of the article and write the summary next to the bracket.

Second: Encourage the students to do the next page on their own with sticky notes (coded S for summarize).

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**EXAMPLE**

Write Summary

Code “S” for Summary

<table>
<thead>
<tr>
<th>What’s Interesting</th>
<th>What’s Important</th>
</tr>
</thead>
</table>

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**CONDUCT META DISCUSSIONS**

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**INFERENCING**

* Unique skill essential for comprehension.
* Requires explicit instruction.
* Takes place DURING Reading phase of instruction.
* Practice seeking missing information.
* Work on pronouns during task.

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**KIS STRATEGY**

Key words

- Students underline key words and facts from text.

Infer

- Next students make inferences using the key words or facts to answer a question.

Support

- Then, students list background knowledge used to support their answers.

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**HOW DO YOU KNOW? STRATEGY**

(Richards & Anderson, 2003)

Read passage.

Ask question requiring an inference to answer.

Get answer from the group.

Then, ask if it says that in the book.

When they say “no.”

Ask “How do you know?”
THE ACT AND CHECK STRATEGY

Four-step reading comprehension strategy to help students generate inferences as they read.

- Ask yourself a question.
- Consider the text.
- Think about what you know and take a good guess (infer).
- Check your guess.

Types of Inferences to Teach

- Elaborative — adds detail through personal experiences, to predict possible outcome.
- Cohesive — makes use of connective features of text.
- Knowledge-based inferences — makes connections with other text knowledge.
- Evaluative — makes an emotional connection to text.

WHICH TYPE INFERENCE?

He came into the room to shut the windows while we were still in bed and I saw he looked ill. He was shivering, his face was white, and he walked slowly as though it ached to move.

(Hemingway’s “A Day’s Wait” 1987, p. 332).

LEARNING TO MAKE INFERENCES

- Model using Think-Alouds.
- Teach different types of inferences.
- Use small group activities and discussion.
- Direct students to supporting information to build their schema.

INFERRING WITH TEXT CLUES

Purpose: Teaching the inferring equation BK+TC=I (Background Knowledge + Text Clues=Inference)

Response: Three-column chart entitled Background Knowledge/Text Clues/Inference

DILEMMA WORKSHEET

What is the character’s dilemma?

What are 2 choices of the dilemma?

Choice 1

What information, evidence or expertise does the character have to support her first choice?

Choice 2

What information, evidence or expertise does the character have to support her second choice?
DILEMMA WORKSHEET

Evaluate her final decision. How does the character justify her action? Can the character be certain she made the right decision?

Based on your own values, beliefs, opinion, or evidence, do you believe that the character made the right decision? Why or why not?

METADISCUSSIONS

(TWIERS, 2014, P. 71)

Talking about language and learning with students

- How can we use this thinking in another course?
- What types of things do we do in this class that helps you to learn?
- How does working on a group project help develop our language skills?
- Why do we predict events?
- How do we make a hypothesis?

HOW TO MAKE ARGUMENTS

(TWIERS, 2014)

Argue pros and cons of an issue.

Ask how others interpret the text.

Ask how others might solve the problem.

Have students explain concepts to other students.

VOCABULARY

Very large mean effect sizes; greater than fluency, word study, and multicomponent interventions. (Scammacca et al., 2015)

HOW DO YOU SELECT VOCABULARY TARGETS?

ACADEMIC WORD LIST

Developed by Averil Coxhead of Victoria University of Wellington, New Zealand.

10 sub-lists of words families containing 570 high frequency words in broad range of academic texts.

www.englishvocabularyexercises.com/AWL
**VOCABULARY INSTRUCTION**

**TEACHING PROCEDURES**

- Pronounce the word
- Explain meaning
- Provide examples
- Elaborate
- Assess
- Review

**GREAT WEBSITES WITH VIDEO EXAMPLES OF HOW TO EXPLICITLY TEACH LANGUAGE**

http://explicitinstruction.org/

- Anita Archer

http://pubs.cde.ca.gov/TCSII/prolearningtoolkit/kinsellaindex.aspx

- Kate Kinsella

**VOCABULARY STRATEGIES**

- Use verbal and visual associations
- Use right away activities
- Use kinesthetic, auditory, and tactile cues
- Connections
- Teach word learning habits - word detectives
- Word walls

**VOCABULARY INSTRUCTION**

(From Newman & Wight 2014)

**Explicit Instruction:**

- Before, during, or after
- Detailed definitions and examples
- Follow-up
- Discussion designed to review words

**Implicit Instruction:**

- Teaching words in context of an activity

**A NEW WAY TO TEACH SEMANTIC RELATIONSHIPS AMONG WORDS**

(Nagy & Hebert, 2011)

- Part/Whole: i.e., branch/tree
- Instrumental: i.e., broom/flower
- Common semantic classes i.e., shoes/boots
- Synonyms: i.e., absent/missing
- Words commonly used together: i.e., absent/minded
- Superoordination: i.e., glass/metal
- Scriptal: i.e., hospital/nurse

**VERBAL AND VISUAL ASSOCIATIONS**

Provide symbolic representations of the vocabulary through drawings, videos, graphic organizers, real objects or visual supports.

Associate the new vocabulary word with an image helping them create symbolic representations.

(Neuman, Templeton, & Pollow, 2001)

http://www.youtube.com/watch?v=QqdpRsfIK2I

**RIGHT AWAY ACTIVITIES TO REPLACE DICTIONARIES**

Children learn new vocabulary in engaging ways.

Provide a stem or a sentence starter with the target vocabulary word.

Because of the density of the black hole.

(Reed, Wimmer, & Futemski, 2001)
**KINESTHETIC, AUDITORY, AND TACTILE CONNECTIONS**

- Use graphic organizers to promote deeper discussions.
- Use prompt posters with question starters.
- (i.e., What did we learn from this experience that might help future generations?)

**ZIP AROUND/ LOOPWRITER**

http://www.curriculumproject.com/loopwriter.php

Students must listen for word, definition, or phrase while playing a fast-paced game.

The words may be sight vocabulary (targets word recognition as well as vocabulary), word families (again, targets both reading and vocabulary), content area vocabulary, similar sounding words.

Person asks, "Who has...(read card)?"

Another responds, "I have...(read first part of card)."

They ask, "Who has...(read second part of card)?"

**LOOP WRITER**


**FOUR SQUARE CONCEPT DEVELOPMENT**


**BREIT-SMITH, BUSCH, & GUO’S (2015) STEPS TO TEACHING VOCABULARY**

- Module 1: Sequence Plants
- Module 2: Compare-Contrast Animals
- Module 3: Cause-Effect Seasons
- Module 4: Problem-Solution Environment
ESL

Team 1
- Forgive

Team 2
- Pleased

Team 3
- Shocked

Team 4
- Approve

CONCEPT LADDER

What is it?
- Literacy support tool that guides students to ask questions about a specific topic.
- Graphic organizer type format.
- The ladder is set up just like a traditional ladder, but it has a big box or "rung" in order for the students to write in. The topic will go in the top "rung''.
- Can be done as a pre-reading or post-reading strategy where students can come up with their own questions.

CONCEPT LADDER

Why teach it?
- Students generate background knowledge on a topic before they begin reading about it.
- It allows students to establish a purpose for reading.
- After reading, students will generate questions that they expect will be asked in future reading or research on this topic.

How to teach it:
- First explain the topic of learning.
- Hand out and explain that the concept ladder is used to generate questions about the topic.
- After they have time to develop some questions that also have time to share them in groups.
- Read the book to the class.
- Then they will determine if the text answered any of their questions and discuss the material.

CONCEPT LADDER

Concept Ladder (J.W. Gillet, C. Temple, 1998, as described in make Words, Janet Allen)

- Concept:
- Causes of:
- Effects of:
- Language associated with:
- Words that mean the same as:
- Historical examples:
- Contemporary examples:
- Evidence of:
- Literature connections made:

morphology

Aims to improve morphological awareness or the “conscious awareness of the morphemic structure of words and their ability to reflect on and manipulate that structure”

Morphology (Carlisle, 1995, p. 194)

WHAT ORDER?

Teach morphemes where meaning is transparent first.
Teach morphemes that are frequently occurring first.
Teach words that don’t change spelling or pronunciation first.

http://jrogers1.weebly.com/concept-ladder.html
Credit to: Amanda Dignon
CONSIDERATION OF SHIFTS

<table>
<thead>
<tr>
<th>Type shift</th>
<th>Word</th>
<th>Root/Affix</th>
<th>Type change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transparent</td>
<td>payable</td>
<td>pay / able</td>
<td>No change</td>
</tr>
<tr>
<td>Phonological</td>
<td>magician</td>
<td>magic / ion</td>
<td>Pronunciation</td>
</tr>
<tr>
<td>Orthographic</td>
<td>living</td>
<td>live / ing</td>
<td>Drop e</td>
</tr>
<tr>
<td>Both P/O</td>
<td>competition</td>
<td>compete / ion</td>
<td>Drop e; long to short e</td>
</tr>
<tr>
<td>Semantic</td>
<td>appliance</td>
<td>apply / once</td>
<td>Distant meaning</td>
</tr>
</tbody>
</table>

TARGET MORPHOLOGY IN THREE AREAS

- Morphological knowledge - one's implicit knowledge about morphology.
- Morphological awareness - conscious ability to manipulate internal word structures.
- Morphological analysis - cognitive strategy for determining the meaning of unknown morphologically complex words.

MORPHOLOGICAL STRATEGIES

- Analyzing words for their constituent morphemes
- Synthesizing meanings of individual morphemes to predict meanings of complex words
- Producing morphologically complex words in cloze or analogy tasks
- Engaging in problem-solving to determine meaning of unknown morphologically complex words

WHAT TO TEACH?

<table>
<thead>
<tr>
<th>PREFIX</th>
<th>No. of WORDS</th>
<th>PREFIX</th>
<th>No. of WORDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>un</td>
<td>782</td>
<td>pre</td>
<td>79</td>
</tr>
<tr>
<td>re</td>
<td>491</td>
<td>inter</td>
<td>77</td>
</tr>
<tr>
<td>ir, ir, 1r (not)</td>
<td>313</td>
<td>fore</td>
<td>76</td>
</tr>
<tr>
<td>dis</td>
<td>216</td>
<td>de</td>
<td>71</td>
</tr>
<tr>
<td>es, em</td>
<td>132</td>
<td>trans</td>
<td>47</td>
</tr>
<tr>
<td>non</td>
<td>126</td>
<td>super</td>
<td>43</td>
</tr>
<tr>
<td>in, in, in (not)</td>
<td>105</td>
<td>semi</td>
<td>39</td>
</tr>
<tr>
<td>over</td>
<td>98</td>
<td>areal</td>
<td>33</td>
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<tr>
<td>sub</td>
<td>80</td>
<td>med</td>
<td>23</td>
</tr>
<tr>
<td>under</td>
<td>80</td>
<td>under</td>
<td>25</td>
</tr>
<tr>
<td>TOTAL WORDS</td>
<td>2,859</td>
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</table>

KINDERGARTEN THROUGH 3rd GRADE TEACH

- Common frequently occurring short words
- Fry and Dolch lists
- In 1st Grade begin teaching suffixes orally:
  - Regular plural nouns by adding -s or -es
  - Most frequently occurring inflections and affixes — (-ed, -s, -ful, -less, un-, pre-, re-) as clues to meaning of unknown words

TEACH

3rd Grade

- Prefixes
- Derivational morphemes
- Compound words
- Decode words with common Latin suffixes

4th and 5th Grades

- Latin and Greek suffixes
- Teach morphemes versus syllables
LATIN PREFIXES AND ROOTS TO TEACH

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Meaning</th>
<th>Root</th>
<th>Literal Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ex</td>
<td>out</td>
<td></td>
<td></td>
</tr>
<tr>
<td>In</td>
<td>nat</td>
<td></td>
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<tr>
<td>Sub</td>
<td>under</td>
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<tr>
<td>Con</td>
<td>with,</td>
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<tr>
<td>Ob</td>
<td>against</td>
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<td>Dis</td>
<td>apart,</td>
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<td>Ad</td>
<td>to,</td>
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<td>Re</td>
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<td>Trans</td>
<td>across</td>
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<tr>
<td>Inter</td>
<td>between,</td>
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<td>Among</td>
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<td>Ob</td>
<td>against</td>
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<td>Among</td>
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LATIN AFFIXES

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<th>Affix</th>
<th>Meaning</th>
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<tbody>
<tr>
<td>Scrib, script</td>
<td>write</td>
</tr>
<tr>
<td>Spect, spec-</td>
<td>see, watch</td>
</tr>
<tr>
<td>Mit, mis-</td>
<td>send</td>
</tr>
<tr>
<td>Ten, tant, tain</td>
<td>have or hold</td>
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<tr>
<td>Plic, ply</td>
<td>fold</td>
</tr>
<tr>
<td>Fer-</td>
<td>bring, bear, yield</td>
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<tr>
<td>Duc, duce, dust</td>
<td>to lead</td>
</tr>
<tr>
<td>Fac, fact, fic, fec-</td>
<td>make or do</td>
</tr>
<tr>
<td>Cept, cop, ceive, ceit</td>
<td>take, seize, receive</td>
</tr>
<tr>
<td>Post, pon, pose</td>
<td>put, place, set</td>
</tr>
<tr>
<td>Sist, sta, stat</td>
<td>stand, endure</td>
</tr>
</tbody>
</table>

Teaching Strategies

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning of Prefix</th>
<th>Meaning of Root</th>
<th>Literal Word Meaning</th>
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EXAMPLE: VISUAL FOR TEACHING MORPHOLOGY

WORD DETECTIVE STRATEGY

http://www.education.com/games/

https://wvde.state.wv.us/strategybank/WordDetective.html

HOW TO USE A WORD HUNT

1. Introduce the topic and provide students with written material (i.e., dictionaries, books, and/or news article).
2. Model word hunting by using a portion of text copied onto chart paper, overhead transparencies, or a familiar book.
3. Ask the students to read and reread a text to find words that fit a particular pattern.

http://www.readingrockets.org/article/word-analysis-expand-vocabulary-development
WORD BUILDING ACTIVITIES (GIBSON & WOLTER, 2015)

- Students deconstruct words and their parts.
- Students explore and create words (real and nonsense).
- Students focus on and practice strategies that can be applied to unfamiliar words.
- Students hunt for and record complex words in their academics.

EXAMPLES OF WORD DETECTIVE ACTIVITIES

- Words Their Way: Word Sorts
- Morpheme Flipbook

http://www.readwritethink.org/classroom-resources/student-interactives/word-family-sort30052.html (Word Family Sort from readwritethink.org)

HARRIS, SCHUMAKER, AND DESHLER STUDY (2011)

The word-mapping strategy included the mnemonic MAPS and a graphic organizer to sequence the following steps:

1) Breaking the words into morphemes.
2) Attaching meaning to each morpheme.
3) Predicting the meaning of the word.
4) Seeing if the prediction was correct by checking in a dictionary.

TEACHING AFFIXES AND COMPOUND WORDS

WORDS THEIR WAY SORTING ACTIVITIES

ADDITIONAL MORPHOLOGICAL ACTIVITIES

SEMANTIC FEATURE ANALYSIS

1. Select a category or topic for the semantic feature analysis.
2. Provide students with key vocabulary words and important features related to the topic.
3. Vocabulary words should be listed down the left hand column and the features of the topic across the top row of the chart.
4. Have students place a “+” sign in the matrix when a word aligns with a feature, a “−” if it does not align, or leave it blank if they aren't sure.

http://www.readingrockets.org/strategies/semantic_feature_analysis

VIDEO OF SEMANTIC GRADIENTS (2ND GRADE)
Let’s revisit our instruction.

** Instructional Teaching Form

**VIDEO**

[Link to instructional teaching form](https://drive.google.com/file/d/0B-dBkNlwszWy4bm3Z2ps/view)

---

**WORD WALLS**

“An organized collection of words & symbols that are prominently displayed within the environment and used to help the individual reference & learn new vocabulary.”

Lunger–Bergh, Burns–McCloskey, Russell, & Skulski (2013)

ASHA Conference Presentation

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**WORKING TO IMPROVE SYNTAX**

Summarized from Kuehl (2014); Scott (2014)

3 main ways to make sentences more complex:

1) **Noun phrase elaboration**
   - Involves adding determiners, adjectives, prepositional phrases and relative clauses.
   - Ex: This table, My big, round, bouncy ball, The girl who is talking on the phone.

2) **Verb phrase elaboration**
   - Adding auxiliaries, secondary verbs, adverbs
   - Ex: She likes to walk quickly to school; He had been studying for a long time; They should have won the game.

3) **Conjoined and embedded clauses**
   - Embed nominal & adverbial clauses (i.e., subordinate/dependent clauses). (FANBOYS)
   - Ex: John wants the book that I read; They walked to the beach because there is no parking; She thought it was useful, but difficult to remember.

---

**TEACHING SENTENCE COMBINING**

(Saddler, 2014)

- Teachers model techniques using demonstration to students.
- Using scaffolding techniques to develop multiple solutions.
- Using independent practice technique, students create multiple solutions.

**Ex:**

- Adjective clause
  - The girls are acting in the play.
  - The girls are on stage.
  - The girls who are on stage are acting in the play.

- Noun phrases & noun clauses
  - Something was a mystery.
  - How did the budget pass?
  - How the budget passed was something of a mystery.

- Adjective clause when
  - 1905 was the year.
  - The rebellion began then.
  - 1905 was the year when the rebellion began.

---

**GROUP ACTIVITY**

https://youtu.be/Y48w7KoVyVM

What is missing in this instructional activity teaching sentence combining?

https://youtu.be/LyiWgTmZsk

This video explains the metacognitive skills in sentence combining.

---

**MODELING ACADEMIC LANGUAGE**
**STRATEGIES**

- **Sentence Starters**
- **Emphasis**
- **Think Alouds**
- **Gestures and Facial Expressions**

**Sentence Starters**

- https://www.youtube.com/watch?v=C92n6ITgKko

**Emphasis or Prosody**

- Prosody has larger effects on learning than slowing one’s rate of speech.
- Change your loudness and pitch.
- Stress specific syllables and words.
- Pause for punctuation and syntax.

- (Zwiers, 2014)

**Children learn better when the SLP places emphasis on learning targets.**

**Think-Alouds and Explanations (Wesby, 2004)**

- **Think-Alouds**
  - Requires students to talk about their thought process
  - Requires reflecting on and reporting what they are doing as they are reading

- **Self Explanations**
  - Requires students to demonstrate comprehension by explaining the content of the text
  - Works best with tests that include causal relationships

**Think Alouds (Davey, 1983; Farr, 2001)**

- Provide one or two think alouds.
- Model your thinking, building evidence and guide children to making bigger meaning of the text.
- Think alouds can be anywhere in the text at any time.
- Have genuine responses to the text.
- The wording that you use when thinking aloud needs to be planned intentionally.

- https://www.youtube.com/watch?v=Y5WJQHrK-aQ
- https://www.youtube.com/watch?v=Qy2bCytxC5c

**Gestures and Facial Expressions**

- Decreases cognitive load.
- Places less demand on working memory.
- Facilitates encoding into long term memory.
- Gesture is a visual representation and draws attention to the child’s speech.

SINGLE STRATEGY STUDIES: SUMMARIZATION

- Concentrate on Important Information
- Extract Main Ideas
- Understand Relationship Between Ideas
- Extract Supporting Ideas
- Focus on Text Structure
- Condense the Information

SQ3R

- Survey: heading and subheadings to gain an overview of the reading passage
- Question: change headings and subheadings questions to set a purpose for the reading
- Read: the passage/text to answer questions
- Recite: note the important information and write brief notes about key ideas
- Review: the main points and try to recall them

RT MODIFIED FOR LD TO COLLABORATIVE READING STRATEGY (CRS)

- Preview
- Click and Clunk
- Get the Gist
- Wrap Up

DISTANCING STRATEGIES TO PROMOTE METACOGNITION

- Language-distancing strategies promote metacognitive awareness (Garjria, 2016)

4 types of questions that require increase distancing from the explicit content of the text (Raphael, Highfield, & Au, 2001)

- Right There: explicitly stated
- Think and search: answer is stated differently in the text
- You and the author: Student thinks about what is learned from the text
- On my own: Answer generated by student's prior knowledge

INTERVIEWS AND QUESTIONNAIRES

- A variety of questionnaires have been developed to evaluate metacognitive awareness and use of self-regulatory strategies.

- Selecting a response from multiple choices
- Rating scale for statements
- Asking hypothetical situations

RECIPROCAL TEACHING (RT)

- Prediction, Clarification, Question Generation and Summarization

- Expert scaffolding: teacher modeling replaced by student lead
- Interactive teacher-student dialogue in applying the strategies
QUESTIONING IN DEEPER WAYS

SINGLE STRATEGY STUDIES: QUESTIONING (Garjria & Jitendra, 2016)

- Activates Prior Knowledge
- Focus Attention on Important Information
- Summarize Key Points
- Monitor Understanding of Text by Asking
  Use various Questions at Different Points

*Benefits are noted for both teacher generated questions and teaching self-questioning as a cognitive strategy

QUESTIONING EVIDENCE

Students generated their own questions
- Improved ability to generate text based questions
- Improved comprehension performance

QAR Strategy
- Weak evidence for LD
- Possibly due to short training period

Using Headings and Subheadings
- Positive evidence for self-generating questions
- Self-questioning impacts comprehension

JUSTIFICATION QUESTIONS (Zwiers, 2014)

- Why do you think that?
- What evidence do you have to support your conclusion?
- What is your reasoning for thinking that?
- For example? Based on what?

CLARIFICATION QUESTIONS

- Tell me more...
- What do you mean by.....
- I think we should clarify the meaning of.....

[Zwiers, 2014, p. 121].

STRATEGIES

Ask justification questions
Ask clarification questions
Ask elaboration questions
Use discussion starters
Word tables

Very important for promoting higher level thinking in middle and high school age students.
ELABORATION QUESTIONS

Tell me more...

Acknowledging student's response as you add or ask for more information.

DISCUSSION STARTERS

Support your point with evidence.

State your opinion.

Clarify.

Show another point of view.

Add to what someone else has said.

WHAT DOES THE RESEARCH SAY?


IMPLICATIONS FOR RESEARCH

Begin from knowledge building, meaning-based approach helping connect known and new information.

Facilitate skills and strategies that will be used in the classroom, using authentic tasks that transfer across subject areas.

Match language goals with curriculum and with the Common Core State Standards.

(Wallach, 2014)

IMPLICATIONS FOR RESEARCH

Target comprehension and production of expository texts across spoken and written language.

Facilitate metalinguistic and metacognitive awareness in treatment. For example, teach students to ask for clarification when necessary.

(Wallach, 2014)

IMPLICATIONS FOR RESEARCH

Engage students in prior knowledge activities.

Use strategies that help students use and express what they already know.

KWHL

TWA

(Wallach, 2014)
LANGUAGE-DISTANCING STRATEGIES

Parents foster children's representational thinking by using distancing strategies to create an environment in which children are stimulated to reconstruct past events, anticipate the future, or assume alternative perspectives on the present.

Parents can use language-distancing strategies in joint book-reading sessions with young children (van Kleeck, 2006).

Research has shown that the degree of language distancing that parents used with their preschool children positively correlated with children's subsequent academic achievement (Sigel et al. 1991).

LITERACY KNOWLEDGE: INSTRUCTION IN TEXT STRUCTURE

(Carver & Bochna, 2004)

- Repeated presentation
- Explicit explanation
- Teacher modeling
- Questioning

- Ability to transfer knowledge from one activity to another
- Higher listening comprehension
- Metalinguistic awareness

USEFUL RESOURCES

[Images of books and resources]

USEFUL RESOURCES

[Images of books and resources]

REFERENCES

[List of references]

THANK YOU


REFERENCES


