

Six Components of Effective Informational Text Comprehension

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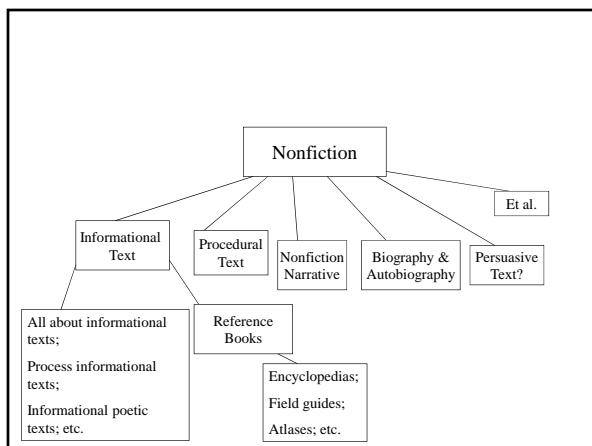
Plan for the Presentation

- About informational text
- Six Components of Effective Informational Text Comprehension:
 1. Building world knowledge
 2. Fostering student engagement
 3. Teaching comprehension strategies
 4. Involving students in discussion
 5. Developing vocabulary
 6. Using assessment to inform instruction

(Of course, there are more than six. . .)

About Informational Text

- Briefly, I define informational text as text that conveys information about the natural or social world and that has particular linguistic features to accomplish that purpose.
- I do not view informational text as synonymous with “nonfiction.” Rather, I view informational genres as a type of nonfiction.



NAEP 2009 Framework

∅ The NAEP 2009 Framework uses the term “Informational Text” broadly to include

- “exposition [which is like what I’ve been calling “informational text”].
- argumentation and persuasive text.
- procedural text and documents.”

NAEP 2009 Framework

∅ NAEP 2009’s other big category is “Literary Text,” in which they include:

- “fiction.
- literary nonfiction, such as essays, speeches, and autobiographies or biographies.
- poetry.”

Informational Text Characteristics

- Informational text often requires the reader to learn new information and integrate that information with what is already known (e.g., Martin & Duke, in press).
- Informational text is often read differently than some other kinds of text. For example, it is often read:
 - nonlinearly
 - selectively
 - at a varied pace

Informational Text Characteristics

- Informational text, even for young children, often contains vocabulary likely to be unfamiliar (Duke & Kays, 1998).
- Vocabulary in informational text is different than in narrative text (Hiebert, 2006; Purcell-Gates, Duke, & Martineau, 2007).
 - The words themselves
 - Repetition
 - Definitions
 - Clues to word meaning

Informational Text Characteristics

- Researchers have identified a number of common features of informational texts for young children, including:
 - Structural features
 - Language features
 - Graphical features
 - Navigational features(Duke & Kays, 1998; Pappas, 2006; Purcell-Gates, Duke, & Martineau, 2007)

1. Building world knowledge

- *Comprehension of any given text is strongly influenced by what one knows related to that text (Hollingsworth, P. M., & Reutzel, 1990; Prichard, 1990).
- *Strong comprehenders tend to have more world knowledge (Prichard, 1990; Stahl, Jacobson, Davis, & Davis, 1989).
- *There is growing evidence supporting content-rich reading comprehension instruction (e.g., Duke & Martin, 2008).

An Illustration of the Importance of World Knowledge

One medium difficulty question from the 1998 NAEP was:
The growth of a blue crab larva into a full-grown blue crab is most like the development of

- A) a human baby into a teen-ager
- B) an egg into a chicken
- C) a tadpole into a frog
- D) a seed into a tree

– **Contexts for Reading:** Reading for Information
– **Aspects of Reading:** Making Reader/Text Connections

What does a student need to know and be able to do to answer this question correctly?

Featured Study: Guthrie, McRae, and Klauda, 2007

- Concept-Oriented Reading Instruction (CORI), <http://www.cori.umd.edu/>
- Situates reading instruction within science
- Engages students in hands-on experiences and reading of texts (informational (mostly), narrative, and poetry)
- Includes oral reading fluency practice, comprehension mini-lessons, guided reading, writing, and independent reading
- Students develop portfolios and write theme-related books drawing from them
- Involves motivational supports, including relevance choice, collaboration, self-efficacy, mastery goals

Featured Study: Guthrie, McRae, and Klauda, 2007

- Analyzed 11 CORI studies, 75 effect sizes, 20 outcomes variables
- Positive impacts on many measures, including reading comprehension in general and informational text comprehension specifically
- Students in CORI classrooms outperformed even solid reading comprehension instruction situated within the English Language Arts block.

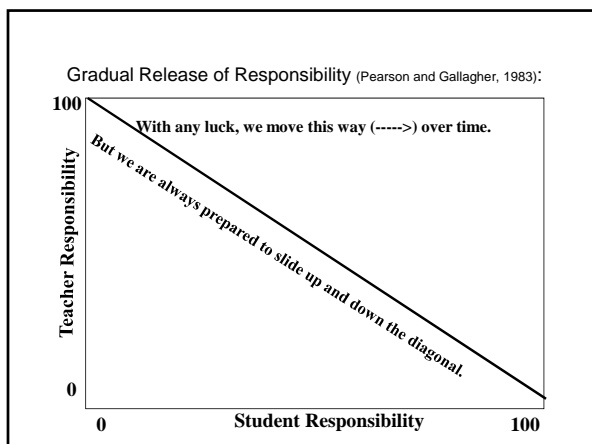
2. Fostering student engagement

- ∩ There are strong relationships between engagement and reading comprehension (e.g., Guthrie, Rueda, Gambrell, & Morrison, 2009).
- ∩ Some students seem to know how to use strategies but choose not to (e.g., Hall, 2006).

- ∩ Fourth-grade students were given
 - ∩ three texts on a topic they reported they were interested in reading about
 - ∩ three texts on a topic they reported they were not interested in reading about
- ∩ When reading texts on a topic they were interested in reading about, students:
 - ∩ used more comprehension processes
 - ∩ used a greater range of comprehension processes
 - ∩ had higher recall (nearly double the score)

3. Teaching comprehension strategies

- Teaching reading comprehension strategies improves reading comprehension (e.g., Duke & Pearson, 2002; NRP, 2000; Stahl, 2004).
- Strategies likely to be helpful with infotext K-3 include:
 - Monitoring, clarifying, fix-up
 - Activating background knowledge
 - Predicting (but not what will *happen* next)
 - Visualizing
 - Inferring
 - Questioning
 - Summarizing



Gradual Release of Responsibility

- (1) An explicit description of the strategy and when and how it should be used
- (2) Teacher and/or student modeling of the strategy in action
- (3) Collaborative use of the strategy in action
- (4) Guided practice using the strategy with gradual release of responsibility
- (5) Independent use of the strategy

(Duke & Pearson, 2002)

Featured Study: Reutzel, Smith, and Fawson, 2005

- ◊ Compared one-at-a-time versus multiple strategy instruction for second graders with info text
- ◊ Students who were taught to use multiple strategies
 - Did better on retelling
 - Did better on a multiple choice test of text content
 - Performed better on curriculum-based reading assessments
 - Performed the same on some other measures, including motivation surveys

From Reutzel, Smith, & Fawson, 2005



Some Cautions Regarding Comprehension Strategy Instruction

- Strategies taught need to be appropriate for that text and context
- Texts need to be worth comprehending
- Situations need to involve students really wanting or needing to comprehend the text
- Texts need to be sufficiently difficult (in terms of comprehension) for strategies to be helpful
- No strategies just for strategies' sake

4. Involving students in discussion

- ∅ There are many different kinds of discussion that can be effective.
- ∅ Many approaches involve higher-order questions and follow-up questions as in: Higher-order questions
 - What do you think about . . . ?
 - Why do you think . . . ?
 - What does remind you of?
 - Have you ever . . . ?
 - What is the author. . . ?
 - If you were the author. . . ?

4. Involving students in discussion of text

∩ Follow-up questions

- What makes you say that?
- What did the author say about that?
- Say more. . .
- Do you agree with _____?
- How does that connect with what _____ said?

Featured Study: Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009

- ∩ Analyzed 42 studies of discussion with comprehension outcomes
- ∩ Many approaches resulted in improved comprehension
- ∩ Nature of impacts varied
- ∩ Some approaches that showed improved comprehension were:
 - ∩ Instructional Conversations
 - ∩ Philosophy for Children
 - ∩ Questioning the Author

5. Developing vocabulary

- Vocabulary and reading comprehension are strongly related (Bauman, 2009).
- Informational text, even for young children, often contains vocabulary likely to be unfamiliar to children (Duke & Kays, 1998).
- Vocabulary in informational text is different than in narrative text (Hiebert, 2006; Purcell-Gates, Duke, & Martineau, 2007).
 - The words themselves
 - Repetition
 - Definitions
 - Clues to word meaning

Featured Study: Zipke, Ehri, & Cairns, 2009

- A study of semantic ambiguity instruction -- teaching children to recognize and deal with multiple-meaning words and sentences
- There are many multiple-meaning words in informational text.
- Study involved third graders
- Four sessions, 45 minutes each, taught individually

Semantic Ambiguity Instruction

Zipke, Ehri, & Cairns (2009)

Session 1: Multiple Word Meanings

- Brainstorm and discuss multiple meaning words
- Pick out homonyms from a set of nouns, verbs, adjectives, and adverbs (22 of 40)
- Teach strategies for identifying homonyms:
 - Can it fit another form class? “(e.g., if it’s a thing, can it also be something you do?).”
 - Are synonyms for the words really different? “(e.g., for the word *ball*, *baseballs* and *basketballs* are both still sports equipment so they are not really different meanings of *ball*).”

Semantic Ambiguity Instruction

Zipke, Ehri, & Cairns (2009)

Session 2: Multiple Sentence Meanings

- ∞ Discuss seven ambiguous sentences with pictures for each meaning
 - e.g., “The dog chased the man on a bike”
- ∞ Represent eight sentences by using Colorforms
 - e.g., “The ball was found by the kitten”
 - Had three-column chart: who does what to whom

Semantic Ambiguity Instruction

Zipke, Ehri, & Cairns (2009)

Session 3: Riddles

- Discuss riddles
 - E.g., “Why do spiders like baseball? They’re good at catching flies.”
- Use three-column chart (see previous slide) and manipulatives to explain answers
- Invite riddles students know
- Have students write their own riddles
 1. Identify topic of interest
 2. List of words related to topic
 3. Identify homonyms on list
 4. Write riddles in riddle book

Semantic Ambiguity Instruction

Zipke, Ehri, & Cairns (2009)

Session 4: *Amelia Bedelia*

- Read *Amelia Bedelia and the Surprise Shower* (Parish, 1979)
 - Have children stop at every multiple meaning sentence
 - how did Amelia understand it?
 - what was the intended meaning? and how do you know?
- Read *Amelia Bedelia's Family Album* (Parish 1988)
 - Cover up Amelia's interpretation and ask what Amelia would say (e.g., of what a *boxer* does)
 - Have children add their own entries to the book

6. Using assessment to inform instruction

Students may be struggling with informational reading comprehension for many very different reasons (e.g., Buly & Valencia, 2002; Duke, Pressley, & Hilden, 2004), including:

- difficulty decoding w/ sufficient accuracy and appropriate rate
- lack of background or vocabulary knowledge the text assumes
- lack of monitoring
- not reading actively, employing comprehension strategies
- not figuring out key texts and concepts in text
- not having sufficient knowledge of and/or not making sufficient use of info text purposes, structures, and features
- not sufficiently engaged

6. Using assessment to inform instruction

Assessment tools to inform differentiated instruction:

- ∞ Informed, ongoing observation
- ∞ Informal assessments
- ∞ Formal assessments
- ∞ 'New generation' assessments, such as:
 - Concepts of Comprehension
 - Informational Strategic Cloze Assessment

Featured Study: Bolt, Duke, Billman, & Betts, 2010

- ∞ First and second grade teachers randomly assigned within matched pairs to administer an assessment of informational comprehension 3 times during the year to a subset of student in the class (and received scores for some additional students)
- ∞ Attended workshops on administering and interpreting the assessment
- ∞ Students in the experimental group had higher growth in informational comprehension and informational writing (a transfer measure).

An Informational Text Comprehension Assessment

The Concepts of Comprehension Assessment (COCA)

- Inspired in part by the Concepts of Print Test (Clay)
- Designed for first and second graders
- Individually administered
- Assessment sessions run about 15 minutes / child
- Text is read aloud with book in front of the child
- Child can move the text
- Questions and prompts are scripted to facilitate consistent administration
- Student responses are recorded directly on the score sheet to facilitate scoring

The COCA is copyrighted by the Michigan State University Board of Trustees. It is available to download free at www.msularc.org

More About the COCA

- The COCA assesses four hypothesized dimensions of comprehension of informational text:
 - > Comprehension Strategy Use (CS)
 - > Knowledge of Informational Text Features (TF)
 - > Comprehension of Graphics in the Context of Text (GCT)
 - > Vocabulary knowledge of high utility science words and Vocabulary strategies for rarer words (V)

More About the COCA

- There are more than four dimensions of comprehension.
- We selected these four primarily because they seem central and **teachers can do something to improve a student's knowledge or skills in this area.**
- We avoided some dimensions of reading comprehension that are already widely assessed and instructed (e.g., word recognition skill).

References to Featured Studies

Bolt, S. E., Duke, N. K., Billman, A. K., & Betts, J. (under revision). *The impact of assessing informational text comprehension in the primary grades: Consequential validity of the Concepts of Comprehension Assessment (COCA)*. Michigan State University.

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Reutzel, D. R., Smith, J. A., & Fawson, P. C. (2005). An evaluation of two approaches for teaching reading comprehension strategies in the primary years using science information texts. *Early Childhood Research Quarterly, 20*, 276-305.

Zipke, M., Ehri, L. C., & Cairns, H. (2009). Using semantic ambiguity instruction to improve third graders' metalinguistic awareness and reading comprehension: An experimental study. *Reading Research Quarterly, 44*(3), 300-321.

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