Informational Text Comprehension
Responding to the Common Core State Standards
Part 1

BIG IDEAS from Common Core State Standards

Informational Text

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Informational Text - What

The Common Core State Standards addresses informational text in the following categories:

- **Exposition** – factual, textbook-like reading
- **Argument/Persuasion** – texts that use argument to present a position and convince reader
- **Procedural** – step by step instructions; how-to-do something
- **Literary Nonfiction** – uses factual information within a story-like format
**Informational Text - What**

Distribution of Literary and Informational Passages by Grade in the 2009 NAEP Reading Framework

- Grade 4  Literary 50%  Informational 50%
- Grade 8  Literary 45%  Informational 55%
- Grade 12 Literary 30%  Informational 70%


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**Informational Text - Why**

Why emphasized in Common Core?

- By sixth grade, 80% of school reading tasks are expository (Venezky, 2007)
- 80% of adult/workplace reading is informational
- Standardized tests are 85% expository (Daniels, 2007)
- Students’ success or failure in school is closely tied to their ability to comprehend expository text (Kamil, 2003)

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**Informational Text - Where**

- The percentages on the table reflect the sum of student reading, not just reading in ELA settings. Teachers of senior English classes, for example, are not required to devote 70 percent of reading to informational texts. Rather, 70 percent of student reading across the grade should be informational.

( Common Core State Standards, page 5)
Students should read **variety** of informational text:
- Grade-level text
- **Challenging, complex text**

**Features of Complex Text**
- Multiple themes and purposes
- Density of information
- Unfamiliar settings, topics or events
- Lack of repetition

**Features of Complex Text**
- Complex sentences
- Uncommon vocabulary
- Lack of words, sentences or paragraphs that review or pull things together for the student
- Longer paragraphs

Why emphasis on complex text
- expectations for what students read has declined over last 50 years
- cognitive demands reduced due to range of students’ learning abilities and reading and writing skills
- a steady downward trend across grades in the complexity of texts since 1962
**Informational Text - Why emphasis on complex text**

- students read very few informational texts
  - 7 percent of reading assignments in elementary school
  - 15 percent in middle school

- students’ ability to read and comprehend challenging text predicts graduates’ postsecondary success

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**Informational Text - Close Reading**

- **Close reading**
  - Rigorous reading of informational text
  - Creating deep understanding
  - Determining what text says explicitly
  - Making logical inferences
  - Drawing conclusions about content
  - Examining meaning thoroughly

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**Informational Text - Text-Dependent Questions**

**Text-Dependent Questions and Tasks**

- do not require information or evidence outside the text
- can only be answered by careful scrutiny of text
- require careful thinking about the text
- require finding evidence in text to support response

**In other words, YOU MUST READ THE TEXT.**

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**Informational Text - Preteaching**

- Limit amount of preteaching
- Teach necessary vocabulary and background knowledge
- Don’t overdo so that students do not have to read the text
- Provide some “cold reads”
**Informational Text - Preteaching**

Example - The Jackson Era

**Preteaching -**
Preparation each section of chapter including vocabulary and background knowledge instruction, and guided section previewing.

**Cold Read -**
Students read Jackson’s Inaugural Address, listing his promises and then comparing those to his actions in office.

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**Common Core State Standards**

See **Informational Text Standards** in Support Materials

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**Summarize Big Ideas**

- What
- Why
- Where
- How

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**Path to the Common Core**

Use research-validated practices
- Comprehension
- Vocabulary
- Background Knowledge
- Writing

Use research-validated practices
- Explicit Instruction
  - Design of Instruction
  - Delivery of Instruction
Path to the Common Core

Use research-validated knowledge on learning.

Attend
Intend
Organize
Rehearse

Learning Domain-Specific Information

Attend
Intend
Teacher
- I intend to teach critical content
  - This information/strategy/skill is important because......
  - We need to remember ......
  - The most important idea is....
  - Let’s review......

Students
- I intend to learn critical content
  - I will take notes / mark the text/ add notes in the margin/ highlight / create a web / complete graphic organizer / summarize/ ....
  - I will study ....

Organize

- Big ideas (Example)
  - Problem (economic or people’s rights)
  - Solution
  - Effect (problem ends, problem continues, causes a new problem)
  Carnine, Crawford, Harness, Holmbeck and Miller, 1998

- Graphic organizers

Rehearse

- Repeated practice needed

- The more times students process information the more likely they are to remember it.

Marzano, 2004

- Students require 4 exposures to information to adequately integrate into background knowledge (within a 2 day period) Nuthall, 1999
Learning Domain-Specific Information

Rehearse

Provide judicious practice (Burke, Hagan, & Grossen, 1998)

- Provide sufficient practice opportunities
- Initial instruction
- Distributed practice
- Cumulative review

Develop a PLAN for practice

Example: Science Teacher’s Plan
Rehearse information during lessons
Entry tasks - Two questions on current topic
Two review questions
Exit tasks - Big ideas from today’s Lesson
Friday Review - Teach previous graphic organizer to partner
Play Quizlet vocabulary review game

Reading Comprehension:

Before Reading

During Reading

After Reading

Preview - Before Reading Strategies

- Teach the pronunciation and meaning of critical, unknown vocabulary words
- Review, teach or activate any necessary background knowledge
- Preview the text
Before Reading - Vocabulary

• “direct vocabulary instruction has an impressive track record of improving students’ background knowledge and comprehension of academic content” Marzano, 2001, p. 69

• .97 effect size for direct teaching of vocabulary related to content Stahl & Fairbanks, 1986

Before Reading - Vocabulary

Attributes of Good Vocabulary Instruction

1. Promote **word learning strategies**

2. Select words that enhance academic success
   - **General Academic Vocabulary** - Generalize across domains *(evidence, observe, investigate, classify, compared to, alternatively, in contrast)*
   - **Domain-Specific Vocabulary** - Specific to a domain or field of study *(suffrage, prokaryote)*

3. Order or group words **semantically**

Before Reading - Vocabulary

Attributes of Good Vocabulary Instruction

4. Teach words using **explicit instruction**

5. Provide **student-friendly explanations**

6. Teach **parts of words** at the “moment of opportunity” *(biology - bio = life; autoimmune - auto = self)*

7. Provide **multiple exposures** to terms and meanings

Before Reading - Vocabulary

Attributes of Good Vocabulary Instruction

7. Expand instruction to **“word relatives”** *(category, categories, categorization, categorizer)*

8. Have students maintain vocabulary **log**

9. Maintain a **word wall**

10. Provide judicious **review**
Before Reading - Vocabulary

- Limit number of words given in depth instruction to 4 to 5 words (Robb, 2003)
- Select words that are unknown
- Select words that are critical to passage understanding
- Select words that students are likely to use in the future (Stahl, 1986)
  - General academic vocabulary found used in many domains
  - Domain-specific vocabulary that provides background knowledge

Before Reading - Vocabulary

- Select difficult words that need interpretation
  - Words not defined within the text
  - Words with abstract referent
  - Words with an unknown concept

(NOTE: Be aware of words that are used differently in your subject. theory - hunch VS in science a well-established explanation)

On-line Dictionaries with Student-friendly Explanations

Collins Cobuild Dictionary of American English
http://www.collinslanguage.com/free-online-cobuild-ESL-dictionary
dictionary.reverso.net/english/cobuild

Longman’s
http://www.ldoceonline.com
(Longman’s Dictionary of Contemporary English Online)

Heinle’s
http://www.nhd.heinle17e.com/home.aspx
(Heinle’s Newbury Dictionary for American English)

Merriam Webster’s
http://www.learnersdictionary.com

(Pronunciation assistance: www.howsay.com)
Before Reading - Vocabulary

Step 1. Introduce the word.
   a) Write the word on the board or overhead.
   b) Read the word and have the students repeat the word.
   c) Have students tap out the syllables in the word.
   d) Have students read the word by parts as you loop under the word.
   e) Have students repeat the pronunciation of the word.
      (If the word is difficult to pronounce or unfamiliar have the students repeat the word a number of times.)

   Introduce the word with me.
   This word is **suffrage**. What word? suffrage
   Tap and say the parts of the word. suf fra ge
   Read the word by parts. suf fra ge
   What word? suffrage
   **Suffrage** is a noun.

Before Reading - Vocabulary

Step 2. Introduce meaning of word.

Option # 2. Have students locate the definition in the glossary or text and break the definition into the critical attributes.

Glossary: **Suffrage** - the right to vote

suffrage
   - the right
   - to vote

Before Reading - Vocabulary

Step 2. Introduce meaning of word.

Option # 3. Introduce the word using the meaningful parts in the word.

autobiography
   auto = self
   bio = life
   graph = letters, words, or pictures

hydroelectricity
   hydro = water

telescope
   tele = distant
   scope = look at

NOTE: 88% of key science words have Spanish cognates; 1/2 are high frequency words in Spanish
### Common Latin and Greek Roots

- **aqua** water, Greek: **aquarium, aqueduct, aquaculture, aquamarine, aquaplane, aquatic**
- **aud** hearing, Latin: **audio, auditorium, audiology, audition, audiotape, inaudible**
- **auto** self, Greek: **autograph, autobiography, automobile, autocrat, autonomy**
- **astro** star, Greek: **astronomy, astrophysics, astrology, astronaut, astronome, asterisk**
- **biblio** book, Greek: **Bible, bibliography, bibliophila, bibliophile, biblioklept**
- **bio** life, Greek: **biology, biochemistry, biotic, biomorphic, bioelectric, biosphere, biometrics**
- **chrono** time, Greek: **synchronize, chronology, chronic, chronicle, anachronism**
- **corp** body, Latin: **corps, corporation, corpse, incorporate, corporeal, corpulence**
- **demo** the people, Greek: **democracy, demography, epidemic, endemic, pandemic**
- **dic, dict** speak, tell, Latin: **dictate, dictation, diction, dictator, verdict, predict, contradict, benediction, jurisdiction, predict, indict, indict**
- **dorm** sleep, Latin: **dormant, dormitory, dormer, dormouse, dormition, dormitive**
- **geo** earth, Greek: **geology, geologist, geometry, geography, geographer, geophysical, geothermal, geocentric**

### Common Latin and Greek Roots

<table>
<thead>
<tr>
<th>Graph</th>
<th>To write, to draw</th>
<th>Greek</th>
<th>Autograph, biography, photograph, telegraph, lithograph</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>water</td>
<td>Greek</td>
<td>Hydroplane, dehydrate, hydroelectric, hydrogen, hydrophone</td>
</tr>
<tr>
<td>Ject</td>
<td>throw</td>
<td>Latin</td>
<td>Reject, deject, project, inject, projection</td>
</tr>
<tr>
<td>Logos, Logy</td>
<td>Study</td>
<td>Greek</td>
<td>Geology, astrology, biology, numerology, zoology, technology, psychology, anthropology, mythology</td>
</tr>
<tr>
<td>Luna</td>
<td>moon</td>
<td>Latin</td>
<td>Lunar, lunacy, lunatic, interlunar</td>
</tr>
<tr>
<td>Meter</td>
<td>measure</td>
<td>Greek</td>
<td>Meter, thermometer, diameter, geometry, optometry, barometer, centimeter, symmetry, voltammeter</td>
</tr>
<tr>
<td>Mega</td>
<td>great, large, big</td>
<td>Greek</td>
<td>Megaphone, megalith, megalomaniac, megatons, megapolis</td>
</tr>
<tr>
<td>Min</td>
<td>small, little</td>
<td>Latin</td>
<td>Minimal, minimize, minimum, mini, miniature, minuscule, minute, minority</td>
</tr>
<tr>
<td>Mit, Mis</td>
<td>Send</td>
<td>Latin</td>
<td>Mission, transmit, transmission, remit, missile, submission, permit, emit, emissary</td>
</tr>
<tr>
<td>Path</td>
<td>feeling, suffering</td>
<td>Greek</td>
<td>Pathetic, pathology, apathy, antipathy, sympathy, telepathy, empathy, sociopath</td>
</tr>
<tr>
<td>Ped</td>
<td>foot</td>
<td>Latin</td>
<td>Pedestrian, pedal, peddle, peddler, pedicure, pedometry</td>
</tr>
<tr>
<td>Philia</td>
<td>love, friendship</td>
<td>Greek</td>
<td>Philosopher, Philadelphia, philanthropist, philharmonic, Philip</td>
</tr>
</tbody>
</table>

### Vocabulary

- **The Sourcebook for Teaching Science** by Norman Herr

Chapter 1, *Building a Scientific Vocabulary* contains lists of roots, prefixes, suffixes by science domain
Before Reading - Vocabulary

Step 3. Illustrate the word with examples.

a. Concrete examples
   - objects
   - acting out
a. Visual examples
b. Verbal examples

Before Reading - Vocabulary

Suffrage Examples

When the United States was founded only white men with property had suffrage.

At the time of the American Civil War, most white men had been granted suffrage.

Before Reading - Vocabulary

Suffrage Examples

In 1920, women were granted suffrage. The passage of the Nineteenth Amendment granted women the right to vote in all United States elections.

Before Reading - Vocabulary

Suffrage Examples

The Voting Rights Act of 1965 outlawed discriminatory voting practices that denied suffrage to many African Americans in the United States.
Before Reading - Vocabulary

Step 4. Check students' understanding.
Option #1. Ask deep processing questions.

Check students’ understanding with me.

Why is suffrage a critical aspect of a democracy?

Begin by saying or writing:

Suffrage is a critical aspect of democracy for the following reasons. First, ____________

Before Reading - Vocabulary

Step 4. Check students' understanding.
Option #2. Have students discern between examples and non-examples.

Check students’ understanding with me.

Tell me suffrage or not suffrage.

The right to run for elected office. not suffrage Why not?
The right to vote. suffrage Why?
The right to develop ads for a candidate. not suffrage Why not?

Before Reading - Vocabulary

Step 4. Check students' understanding.
Option #3. Have students generate their own examples.

Check students’ understanding with me.

Make a list of ways that suffrage could be limited or compromised.

Before Reading - Vocabulary

suffrage noun
suffragist noun

In 1917, all women in the United States did not have suffrage, the right to vote. Suffragists in New York City collected more than a million signatures of women demanding voting rights. They then paraded down Firth Avenue with the signature placards.
**Background Knowledge - What**

- ...what one already knows about a subject.
  
  Stevens, 1980

- ...all the knowledge learners have when entering a learning environment that is potentially relevant for acquiring new knowledge.
  
  Biemans & Simons, 1996

**Background Knowledge - Why?**

Read this paragraph and explain it to your partner.

From a neuroanatomy text (found in *Background Knowledge* by Fisher and Frey)

Improved vascular definition in radiographs of the arterial phase or of the venous phase can be procured by a process of subtraction whereby positive and negative images of the overlying skull are imposed on one another.

**Background Knowledge - Why**

- Background knowledge of text has a major impact on whether or not a reader can comprehend text.
  
  Anderson & Pearson, 1984; Bransford, Stein, & Shelton, 1984; Wilson & Anderson, 1986

- Across grades and reading ability, prior knowledge of subject area and key vocabulary results in higher scores on reading comprehension measures.
  
  Langer, 1984; Long, Winograd, & Bridget, 1989; Stevens, 1980
Background Knowledge - Why

- Average correlation between person’s background knowledge of a given topic and extent to which a person learns new information is .66. Marzano, 2004

- Prior knowledge has a large influence on student performance, explaining 30 to 60% of variance in performance. Docy, Segers, & Buehl, 1999

Background Knowledge

Approaches
1. Review what has been taught
2. Teach necessary background knowledge
3. Activate background knowledge

Background Knowledge - Review

Review critical information what has been recently taught

-Review is always ASK (don’t tell)
-Adjust lesson based on responses

Background Knowledge - Teach

When teaching factual information, remember:

Attend
Intend
Organize
Rehearse
Teach Background Knowledge

BIG IDEA

Even a thin slice of background knowledge is useful.

Teach Background Knowledge

Preparation

1. What is critical?
2. What information would ease acquisition of new knowledge?
3. What information would reduce cognitive overload?
4. What information will increase interest and motivation?

Teach Background Knowledge

Anchor Instruction in:
- Supplementary Informational Text
- Power-point
- Visuals
- Video

Teach Background Knowledge

Anchor in Video Clip
- Select well-crafted video.
  - Appropriate length
  - Major points stressed
  - Matches necessary background knowledge
- Scaffold “information dense videos” (e.g., watch more than one time, provide limited focus for each viewing)
- Opportunity to focus on visual literacy skills. (Cena & Mitchell, 1998)
Teach Background Knowledge

Anchor in Video Clip - Instructional Procedure

1. **Focus:** Establish a focus for watching the video.
2. **Response:** Ask students to take notes, complete partial notes, or complete a think sheet or other graphic organizer. Tell students that they will be sharing with their partners.
3. **Share:** Have students share their observations with their partners or team.
4. **Discuss:** Lead students in a discussion of the main ideas from video.
5. **Review/Rehearse:** Ask students questions on the critical content.

Activate Background Knowledge

**Reflection and Recording**

1. Have students state, write down, or record what they know about the topic.

What do I already know about this topic?

Carr & Thompson, 1996; Peake, van den Bosh & Keupling, 1982; Smith, Readence & Alvermann, 1983; Spriss & Donley, 1999; Walraven & Reitsma, 1993

2. After reflecting and recording, engage students in a group discussion of the topic.


Activate Background Knowledge

- Reflection and Recording
- Anticipation guide
- Cloze
- Semantic Mapping

- **Purposes**
- **activate** background knowledge
- **assess** entering level of knowledge

BUT………..

- Teacher-directed instruction focused on information necessary for understanding text, more effective than activating student knowledge and discussing it.

Dole, Valencia, Greer, & Wardrop, 1991
Activate Background Knowledge

Cloze Procedure
1. Select a self-contained reading passage.
2. Leave first and last sentence and all punctuation intact.
3. Carefully select the words for omission by using a word count formula, such as every fifth word, or other criteria. Delete words that carry meaning, such as nouns, main verbs adjectives, and adverbs.
4. Have students read the entire passage before they fill in blanks.
5. Encourage the students to fill each blank.
6. Give students an appropriate amount of time to complete the task.
7. Prompt students to reread the completed passage.

Kroeger, Burton, and Preston, 2006; Taylor, 1953

Activate Background Knowledge

Students’ background knowledge is highly related to reading comprehension and overall learning. Given that students often have little ________ of the topic, the teacher can frontload passage reading by ________ recently taught information, by teaching ____________ background knowledge or by activating background _____________.

When introducing background knowledge directly, the instruction can be anchored to a power-point presentation, informational article, visuals, or a carefully selected _________.

Activate Background Knowledge

Anticipation Guide
1. The teacher reads the chapter and determines the most important ideas that students should gain.
2. These ideas are stated either as true or false statements.
3. Before reading the chapter, the students read each statement and indicate if they believe the statement is true or false based on their current background knowledge.
4. After reading the chapter and participating in other learning activities, the students read each statement and indicate if they believe the statement to be true or false based on their expanded knowledge.
5. (Optional) Students rewrite false statements, creating true statements. In the end, the students will have a summary of key ideas.

Activate Background Knowledge

Semantic Mapping
1. Have students generate a list of words that they associate with the concept.
2. Next, have students generate categories for the words.
3. Then, students record words from their list with a matching category.
4. Semantic mapping can be done individually, in pairs, or in cooperative teams.
As the student previews, he/she discovers:
– the topics to be **covered**,
– the information that will be **emphasized**,
– how the material is **organized**.
– In addition, background knowledge is **activated**.

**Guide students in previewing the chapter and formulating a topical outline using the text structure:** title, introduction, headings, subheadings, questions.

**Has students preview the selection independently, with his/her partner, or with team members.**