Reading & Writing Connections: Helping All Students Write about What They Learn

Reading in the Rockies
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Prerequisite Skills Development

- Expository Structure
  - Teach recognition and use of text enhancements and graphical aids
  - Teach signal words for causal, sequential, conditional, and comparative relations
  - Teach common literary aids for word meaning (definition, analogy, synonymy)
  - Teach students to identify main ideas:
    - Note characteristics (most important sentence, all other sentences refer to it and elaborate upon it, if omitted the paragraph would not make sense)
    - Write 10-15-word sentence summarizing paragraph
    - Write newspaper headlines/titles
    - Put sentences on strips into order with main idea first

- Summarizing
  - Identify/invent main idea sentences
  - Underline important details
  - Combine these across paragraphs
  - Delete trivial and redundant information
  - Substitute superordinate terms for subordinate items (e.g., pigs, cows, and horses = farm animals; kicked the bucket = died) to make generalizations
  - Check summary against original text upon completion

Literary Aids for Word Meaning

- Definitions
  - The sledge teams set up *depots*, stashes of food and fuel, along the way.
- Examples
  - Plants *adapt* to their environment to get the resources they need. For example, some grow along the trunks of trees to get to the sunlight blocked by tree leaves.
- 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 many 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*.

K-W-L-H +

- **K-W-L-H +** (Carr & Ogle, 1987; Ogle, 1986) is method for activating background knowledge about a topic (**K**now), setting learning goals (**W**onder), summarizing learning from text (**L**earned), and promoting continued investigation (**H**ow to Find Out More) and/or reflection (**H**ow Do I Know This). The plus (+) portion of the method is a written summary of what was learned and what additional things students would like to learn. This method can be used as a teacher-led pre- and post-reading class exercise or as a small-group activity.
  - Step 1: Teacher asks students to brainstorm all that they know about topic and list these under the **K**now column. This student-generated information should be organized into categories either by the teacher or by the students with teacher guidance that will facilitate text comprehension.
  - Step 2: Teacher lists under the **W**onder column those things students would like to discover about topic (which helps motivate them to read the text).

- Step 3: After reading, teacher records under the **L**earned column what the students learned through the text, with particular attention paid to information that confirmed their prior knowledge, information that was inconsistent with what was anticipated, or new information. If appropriate, new categories are added.
- Step 4: Students write their summary paragraph based on the information listed in the **L**earned column.
- Step 5: Students identify how they would locate missing information in the **H**ow to Find out More column (e.g., use a Web browser to search for documents related to topic), which can help motivate additional learning; alternately, or additionally, students can identify how they verified learned information in the **H**ow Do I Know This column (e.g., list page numbers in text that provide the information and other confirmatory sources).

K-W-L-H +

What We Know	What We Wonder	What We Learned & Still Need to Learn	How We Find What We Still Need to Learn

Categories of Information:

- _____
- _____
- _____
- _____

Summary of What We Learned & Still Need to Learn:

_____
_____
_____
_____

Sample K-W-L-H + for Snakes

What We Know	What We Wonder	What We Learned & Still Need to Learn	How We Find What We Still Need to Learn
Some are venomous	How does poison work?	Injected through fangs to paralyze their prey; Sometimes can spit venom at a distance; Some snakes squeeze their prey to death before eating it	Are there different kinds of venom? Look on web or in an encyclopedia
No real legs	How do snakes move?	Most slide on their bellies	
Carnivores	Do snakes kill their prey before eating it?	Not always; Swallow prey whole by unhinging jaws; Use their tongues to sense odors	
Reptiles, so are cold-blooded	Do all snakes lay eggs?	No, some give birth to live babies	
Have scales and shed their skin	How often do they shed their skin?	3-6 times each year; Their eyes are covered by clear scales; some snakes use color as camouflage or pretend to be poisonous	
	Where do they live?	Every continent except Antarctica; Don't live on some islands like Hawaii, Ireland, Iceland, and New Zealand; Some snakes spend most of their lives in the water or in trees	Do snakes live in our area? Look on web or in an almanac

Categories of Information:

- Physical characteristics
- Locomotion
- Habitat
- Defenses
- Eating habits
- Reproduction

Summary of What We Learned & Still Need to Learn:

Snakes are cold-blooded reptiles with dry scales and no real legs—they usually slide on their bellies to move. They live all over the world on land, in water, and in trees, except where it is extremely cold (Antarctica) and some islands (Ireland, Iceland, and New Zealand). We don't know which snakes, if any, live in our area. Some snakes lay eggs while others give birth to live babies. They are carnivores and eat prey whole, often using their tongues to sense the odor of an animal. Some snakes use venom to paralyze their prey first before eating it, whereas others squeeze their prey to death before eating it. Poisonous snakes can either inject the venom through fangs or shoot the venom at a distance. We'd like to find out if there are different kinds of venom. Snakes can eat prey much larger than their heads because they can unhinge their upper and lower jaws. Snakes shed their scales 3-6 times per year, including the clear scales over their eyes. The scales might be very colorful if the sake is poisonous or is imitating a venomous snake; some snakes have colors that help camouflage them and blend in with their surroundings.

QARs

- Question-Answer Relationships (Raphael et al., 1984) help students identify main ideas and important details for focused study and build text-to-text, text-to-self, and text-to-world connections:
  - Right There (text explicit)—In The Book/Thin
  - Think & Search (text implicit)—In The Book/Thin
  - Author & You (text related)—In My Head/Thick
  - On My Own (topic related)—In My Head/Thick
- Instructional Uses
  - Teacher can ask students to produce a one-minute closing paper (on an index card) at the end of each lesson in which they pose a genuine question about the topic studied that day or develop a question that might be used for a class test.
  - Students can generate questions in teams for points and then exchange with another group that responds for additional points (see Collaborative Strategic Reading program)
  - Questions can be used as a guide for developing a summary/report

The sun was setting, and as the senator gazed out his office window, he could see the silhouettes of some of the unique buildings and monuments of Washington, D.C. Directly in front of him at the other end of the National Mall, the stark obelisk of the Washington Monument thrust dramatically skyward, its red warning lights blinking in the approaching dusk. Although he couldn't quite see it, he knew that beyond the Washington Monument and the reflecting pool just past it, a huge statue of Abraham Lincoln sat thoughtfully in the Lincoln Memorial.

The senator was worried. A bill was before the Congress, called Safe Surfing for Safer Schools, that would deny federal education dollars to states that didn't have laws against internet pornography on their books. He was concerned about kids having access to dirty pictures, and even more concerned about internet predators having access to kids. But he also believed strongly in the right of people to freely access information, even if it meant sometimes children might be exposed to adult materials. And it seemed dangerous to take

money away from schools, where the need was desperate, if state legislatures balked at this federal pressure on them.

His constituents had let him know in no uncertain terms that they supported strict standards of decency on the internet. He knew if he didn't support the bill, his next election opponent would paint him as pro-pornography, and anti-child. But he didn't want anything to get in the way of providing monetary support to schools through federal grants.

The unique spires of the original Smithsonian Institution were getting harder to see, but there was still a faint gleam on the green dome of the Museum of Natural History. What was the right thing to do?

Jigsaw Content Learning

- A **Jigsaw Content Learning** group (Aronson & Patnoe, 1997) is a cooperative learning strategy for social studies and science which can aid in preparing research reports. It can be coupled with double entry journals (Cox, 1996) for an effective and efficient means of learning from multiple source materials on a topic.
  - Step 1: Students are assigned to home groups and each person in a group is given a different source text (e.g., a magazine article about exercise and cardiovascular health, a newspaper clipping about new medical procedures and drugs that can help reduce the risk of heart attacks, a consumer brochure outlining healthy eating tips for promoting cardiac health, and a textbook chapter about the human circulatory system) to read.
  - Step 2: Each student completes a double-entry journal while reading the assigned source text. This is a journal in which the student records some important piece of information from the source text on the left side of the journal page (with an accompanying page number) and a response, question, or evaluative comment on the right side.

  - Step 3: After completing their double-entry journal, students disperse to an expert group, a group where everyone else has read the same source text. Members of the expert group share their journal entries and summarize the material using a graphic organizer (e.g., a Venn diagram, attribute chart). The double-entry journal could be expanded to a triple-entry journal by having students within the expert groups respond to each others' responses, questions, or evaluations in a third column.
  - Step 4: Students return to their home groups to teach the other members about the content information they learned (using the graphic organizer) from their text and discuss how this information relates to that covered by the other texts, noting similarities and differences in their journals.

Impressions/Exchange-Compare

- The story impressions method (McGinley & Denner, 1987), similar to exchange-compare writing (Wood, 1986), utilizes a cooperative learning framework. Students are assigned to a group and given roles for writing a brief summary that predicts the content of a lesson or unit text based on key vocabulary provided by the teacher. Once the group has read the text, they rewrite their summary to reflect the actual content of the text and their improved understanding of the material.
  - Step 1: Teacher assigns students to heterogeneous groups and gives each student a role to perform based on his/her strengths:
    - Researcher: consults secondary materials such as dictionary, encyclopedia, or other topic-related documents to help group complete the composing task
    - Scribe: records summary generated by group
    - Content Editor: checks summary against text for accuracy of information
    - Proofreader: checks summary for accuracy of writing mechanics and grammar usage
    - Reporter: reads summary aloud to group for editing and to rest of class for discussion

- Step 2: Teacher lists and pre-teaches 10-15 key vocabulary words from the text (see vocabulary instruction techniques).
- Step 3: Each group uses these words to predict the informational content of the unit contained in the text to be read and writes a short collaborative summary (one or two paragraphs) in which each word is used.
- Step 4: Students read the text.
- Step 5: Each group rewrites the collaborative summary to reflect new understandings of the actual text content.
- Step 6: Each group reads summary to the rest of the class for discussion and feedback.

Sample Initial Collaborative Summary (keywords underlined):

Birds are warm-blooded vertebrate animals that have feathers and can fly. All birds lay eggs in a nest. They have hollow bones that make them light enough to fly. Birds evolved from dinosaurs, which were reptiles. Some birds are kept as pets, but there are many different kinds of birds in the wild. Birds migrate to warm climates during winter and can live in many environments.

Sample Revised Collaborative Summary:

Birds are warm-blooded vertebrate animals that have feathers, powerful hearts, hollow bones, a beak, no teeth, and excellent eyesight. All birds lay eggs and build a nest or lay their eggs in another bird's nest. Many, but not all, can fly. Birds that can fly tend to have longer wings, asymmetrical feathers, and a rounded breastbone to give them lift. Because birds need a lot of energy to fly, they actually eat a lot of food. Birds can be carnivores, or meat-eaters, herbivores, or plant-eaters, or both. Some birds can swim (like the penguin) and some can run very fast (like the ostrich), even though they can't fly. Some flying animals, like bats, are not birds. Birds evolved from dinosaurs, which were reptiles. The bird's feathers are actually modified scales like those on a snake! Some birds are kept as pets, but there are many different kinds of birds in the wild—over 9,000 different kinds. Some birds migrate to a warmer climate in the winter and a cooler climate in the summer. They live in many environments all over the Earth.

Writing Frames

- Writing frames (Nichols, 1980) help struggling writers use appropriate text organization for summarizing content area information that adheres to a basic structure (e.g., compare-contrast). The frames prompt coherent organization by providing partially completed sentences or transition words that, over time, can be faded as students become familiar with each frame. The examples provided can easily be adjusted to fit the contents of a particular source text.

Sample Compare/Contrast Frame

_____ are different from _____ in several ways. First,_____, while_____. Additionally_____, whereas _____. They are alike in that_____ and _____ _____. So, it is evident that _____.

Sample Chronological Order Frame

At the end of _____, what happened was that _____. Prior to this, _____. Before that, however,_____ _____. This whole sequence of events began when_____. The most important event to occur was_____, Because_____ _____.