FOR-PD's Reading Strategy of the Month

Background Knowledge

March 2010

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RATIONALE

Every year, a new batch of students comes into the classroom and they bring with them their own experiences and knowledge about several topics. They also often come with their own viewpoints and thoughts on particular topics that can lead to a variety of interpretations of the text or learning experiences. In order for students to develop understanding of a topic they have to have enough background information about the topic or subject. In addition, that information needs to be activated and developed so that they can connect what they already know to the new knowledge. Background knowledge is influential in the classroom in that "what students already know about the content is one the strongest indicators of how well they will learn new information relative to the content" (Marzano, 2004, p. 1). For students to develop their comprehension and content knowledge teachers have to activate, develop, and assess student background knowledge and even teach them how to monitor it.

HOW TO USE THIS INSTRUCTIONAL APPROACH

To increase students' background knowledge, it is important to follow certain instructional steps. Before teachers begin a new unit, they must first activate student background knowledge to find out what they know already about the specific topic. Next, teachers must also take the time to assist students with carefully organizing information to get them ready to learn. Once instruction commences, it is important that teachers build upon students' knowledge and integrate it with the information they are learning. These connections can help students comprehend and retain the new information. Finally, once the lessons have been taught by the teacher and scaffolding has taken place, it is important to assess what the students now know about the topic.

How to Activate Student Background Knowledge

As mentioned above, we need to activate students' background knowledge in order to find out what they bring into the learning experience, how their knowledge on a topic progresses as a result of more learning, and also how to activate, use, and monitor their background knowledge development as they continue to learn. There are several instructional approaches or strategies that teachers can implement into the classroom to make this knowledge evident. Research has shown that strategies such as KWL charts, previewing, prediction, and anticipation guides help activate students' background knowledge (Strangman, Hall, & Meyer, 2004). FOR-PD has developed several strategies and examples of the KWL, Language Experience Approach, and Anticipation Guide. Please see archived reading strategies of the month link. These strategies can be used before the unit or lesson starts and can be revisited later. Please also see additional resources FOR-PD has located on how to activate student background knowledge.

KWL

- **KWL (Know/Want/Learned) Charts**
  http://www.eed.state.ak.us/tls/Frameworks/sstudies/part4a15.htm

- **Topics in Assessment for English Language Learners**
  http://www.unm.edu/~devalenz/593F02/kwlspan.html

LEA

- **Creating a Language Experience Story**
  http://www.youtube.com/watch?v=QjeR5IKtrXI

How to Build Student Background Knowledge

Research has shown that direct instruction as well as reflecting and recording information during or after reading builds background knowledge. Building students' knowledge is an important instructional step for increasing reader comprehension. By scaffolding instruction, students are able to understand new information while incorporating it with prior knowledge. Such strategies as Prediction Wheel, Think Aloud, INSERT, and Making Connections aid in building student background knowledge. Please see FOR-PD archived reading strategies of the month link. Please also see additional resources FOR-PD has located on how to activate student build student background knowledge in a junior high classroom.

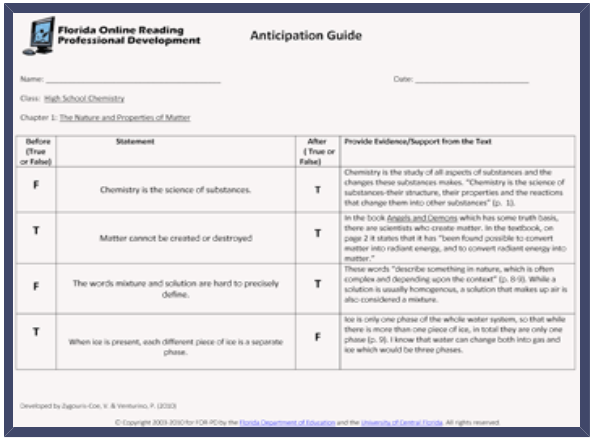
- **Think Aloud Demonstration**
  http://www.teachertube.com/viewVideo.php?video_id=116101

ASSESSMENT

How to Assess Student Background Knowledge

While activating and building knowledge are important, assessing students' background knowledge is also important. There are a few ways that a teacher can assess student background knowledge; for example, teachers can use informal assessment, questioning, student conferences, or specific strategies such as: anticipation guides, opinionaires, and cloze passages (Fisher & Frey, 2009). Several of the above mentioned strategies can also be used after reading.

Anticipation guides can be used both for activation of background knowledge and for assessment. Students can first respond to statements about a topic prior to the unit or introduction of topic, and then revisit their thinking again after the completion of the unit or topic. Teachers can also require that students include explanations to support the decisions they made about the topic statements (Fisher & Frey, 2009). Please see FOR-PD example of an anticipation guide for a high school chemistry class.



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Anticipation Guide

Name: _____ Date: _____

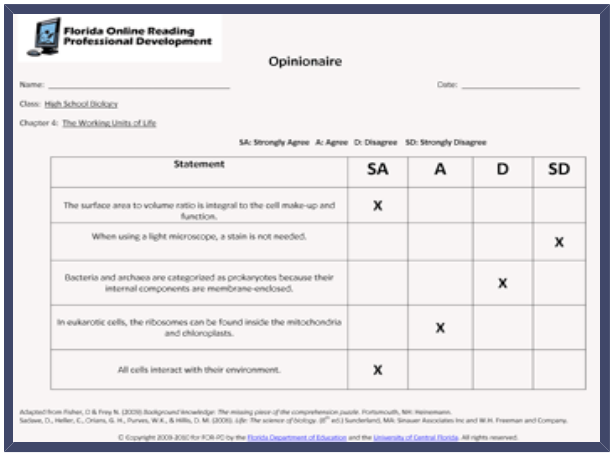
Class: High School Chemistry

Chapter 1: The Nature and Properties of Matter

Before (True or False)	Statement	After (True or False)	Provide Evidence/Support from the Text
F	Chemistry is the science of substances.	T	Chemistry is the study of all aspects of substances and the changes these substances makes. "Chemistry is the science of substances-their structure, their properties and the reactions that change them into other substances" (p. 1).
T	Matter cannot be created or destroyed	T	In the book Angels and Demons which has some truth basis, there are scientists who create matter. In the textbook, on page 2 it states that it has "been found possible to convert matter into radiant energy, and to convert radiant energy into matter."
F	The words mixture and solution are hard to precisely define.	T	These words "describe something in nature, which is often complex and depending upon the context" (p. 8-9). While a solution is usually homogenous, a solution that makes up air is also considered a mixture.
T	When ice is present, each different piece of ice is a separate phase.	F	Ice is only one phase of the whole water system, so that while there is more than one piece of ice, in total they are only one phase (p. 9). I know that water can change both into gas and ice which would be three phases.

Developed by Zygouris-Coe, V. & Venturino, P. (2010)

Opinionaires are another form of informal assessment whereas students respond to a statement based on areas of opinion using the following scale of agreement levels: i.e., strongly agree, agree, disagree, and strongly disagree. This form of assessment invites students to connect their knowledge of a topic with their own thoughts and opinions and present a rationale for the decisions they made on the topic. Please see FOR-PD example of an opinionaire for a high school biology class.



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Opinionaire

Name: _____ Date: _____

Class: High School Biology

Chapter 4: The Working Units of Life

SA: Strongly Agree A: Agree D: Disagree SD: Strongly Disagree

Statement	SA	A	D	SD
The surface area to volume ratio is integral to the cell make-up and function.	X			
When using a light microscope, a stain is not needed.				X
Bacteria and archaea are categorized as prokaryotes because their internal components are membrane-enclosed.			X	
In eukarotic cells, the ribosomes can be found inside the mitochondria and chloroplasts.		X		
All cells interact with their environment.	X			

Adapted from Fisher, D & Frey N. (2003) Background Knowledge: The missing piece of the comprehension puzzle. Portsmouth, NH: Heinemann.
Sadava, D., Heller, C., Orians, G. H., Purves, W.K., & Hillis, D. M. (2008). Life: The science of biology. (8th ed.) Sunderland, MA: Sinauer Associates Inc and W.H. Freeman and Company.

The Cloze procedure can be used in varied ways for instructional and diagnostic purposes. Cloze passages are another way to assess student knowledge of a topic. To construct cloze passages, omit every fifth word. Select a critical passage of 250 words; leave the first and last sentence intact. Cloze can also be used to help students focus on certain types of words (e.g., adjectives, connectives, content-specific words, etc.). Teachers can provide choices for each deleted word or ask the students to write the word they think fits. As students are using the cloze procedure, they are hypothesizing (and predicting) based on their overall knowledge of the world around them, the content of the passage, their topic-specific knowledge, and their knowledge of English.

- **Cloze Passage**

  http://www.testyourenglish.net/english-online/cloze-reading/clozetest-4.html

RESOURCES

Connect Students' Background Knowledge to Content in the ELL Classroom
http://www.readingrockets.org/articles/20827
This article details how to help ELL students by activating their background knowledge.

Use Summer Fun to Build Background Knowledge
http://www.colorincolorado.org/article/16254
A step by step guide on how parents can use summer activities to build readers' background knowledge.

REFERENCES

Marzano, R. J. (2004). *Building background knowledge for academic achievement: Research on what works in schools.* Alexandria, VA: Association for Supervision and Curriculum Development.

Fisher, D. & Frey, N. (2009). *Background knowledge: The missing piece of the comprehension puzzle.* Portsmouth, NH: Heinemann

Strangman, N., Hall, T., & Meyer, A. (2004). *Background knowledge with UDL.*
Wakefield, MA: National Center on Accessing the General Curriculum. Retrieved February 2nd from http://www.cast.org/publications/ncac/ncac_backknowledgeudl.html.

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