

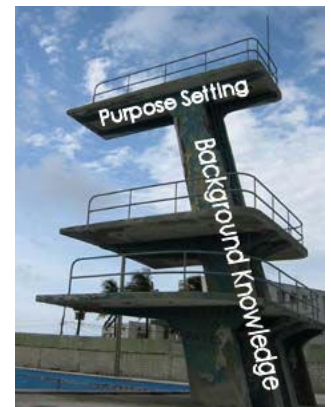


Background Knowledge and Purpose Setting The Springboard to Deep Learning

By Sue Eggart

In the spring of 1997, I attended my first Level I CRISS training presented by Carol Santa to a group of secondary teachers from schools across our district. As Carol was presenting the Principles and Philosophy of Project CRISS, she gave a short narrative about Christopher Columbus to drive home the importance of activating prior knowledge before new learning takes place. I must admit that as I listened to the first read-through of this piece, I became disinterested to the point that I began to write my grocery list, since I was going to the store following the workshop. I was a disinterested learner who was thinking “Oh no! Not another one of these workshops! I’ll focus on something that is important to me!” Carol drew me back into the workshop by pointing out her “intentional sabotage” of our background knowledge. She ultimately revealed the subject of the selection through discussion of our collective background knowledge about Christopher Columbus. At this point, I had an epiphany that came in the form of a question. How many times have I sabotaged the learning in my classroom because I assumed my students knew nothing about the given topic or because I simply thought I did not have time to spend on this component of learning? I did not want to answer that question, but it did dramatically change the manner in which I begin a unit of study with my students and how often I ask them to reflect on their background knowledge throughout the unit.

Once I began to emphasize activation of background knowledge with my students, they began to be more purposeful in their own learning. When they thought about what they already knew, they generated their own inquires about the topic of study. Because they were more interested in the topic, they remained engaged in the learning process, rather than distracted and unmotivated. Purposeful students know where they are going as they navigate the learning process, but those who are purposeless soon become lost in the learning and need redirection by someone who knows the way—a capable teacher who helps students discover how to get to their destination. I use the statement, “The use of background knowledge and purpose setting is the springboard to deep learning,” as I am connecting these essential principles to our topic at a given time. The visual of a person diving into a deep pool (learning) from a diving platform (platform=background knowledge, board=purpose setting) provides an illustration of what I mean.



Classroom Practices

My progressively evolving understanding of the importance of background knowledge and purpose setting has had a profound impact on the way I approach student learning in my classroom. I understand that background knowledge and purpose setting are precursors to learning and need to be revisited over the length of the unit of learning. Furthermore, I have the reflection questions from the CRISS Strategic Learning Plan format posted on a huge reflection banner at the front of my room. I refer to it whenever I am asking kids to activate their background knowledge, determine their purpose for learning, or use any of the other foundational principles that guide meaningful student learning.

As a teacher of middle school students who tend to struggle with reading, I have discovered:

1. My students have minimal background knowledge of some of the topics about which they learn in school and, therefore, they don’t see any relevance, unless a capable teacher helps them make connections to the information.
2. My students don’t realize they do have some prior knowledge about a topic, until we begin to bring it out in class through discussion or informal writing.
3. My students may not acknowledge the need or value of activating background knowledge, until I intentionally teach them just how powerfully it affects their comprehension of a topic.
4. My students are often confused as to their purpose in assigned work, which discourages them, thereby diminishing their learning.

I would like to share some of my own classroom applications to background knowledge and purpose setting throughout the remainder of this article. I will cite some wonderful work being done by others who also value the impact of these powerful components of lifelong learning.



Thanks to Bonnie Valdes (CRISS Master Trainer), I was introduced to a wonderful activity that reinforces the importance of background knowledge with my students. Bonnie uses the puzzle activity with participants in her CRISS trainings to reinforce several of the principles and philosophy of Project CRISS. I modified it a bit to stress the importance of background knowledge in learning.

Preparation



The first step is to purchase several small children's boxed puzzles, with approximately 25 pieces in each, at a local dollar store (figure 1). Also buy several blank, white circular puzzles (25 pieces), which can be found at Treetop Publishing by going to www.barebooks.com (figure 2). I have 10 of each type of puzzle and will use this activity at least once a year with my classes. The investment comes back to me year after year as I use this activity to reinforce the importance of background knowledge with my kids. I can do this with about seven of each type of puzzle, but I like to have extras on hand in case any are damaged or pieces become lost over time.



Once you have the puzzles, place each puzzle in a clear, Ziploc® bag. For the children's puzzles, cut out the pictures on the covers of the boxes to include in the bag.

If you use this activity to tie into science, have two timers/stopwatches to run the activity and have students analyze the data from this activity as a learning experiment.



Divide your class into two groups—half of the class will use the blank white circular puzzles while the other half of the class uses the children's puzzles. Both groups are divided into teams of two or three students, with each team attempting to be first in assembling their puzzle (figures 3 and 4). The first group to assemble the blank puzzle will stop the timer for their side of the room and the first group to assemble the children's puzzle will stop the timer for their side of the room. Once each timer is stopped, you may end the puzzle work or you may allow all participants to complete their puzzles, keeping track of which group finishes last.

Procedure



If you want students to do some informal writing with this activity, as in a science experiment, you may use the same Hypothesis—Evidence notes I show here and the same writing template as well, in order to have students think about the impact of background knowledge on their learning. Be sure to show the conclusion statement after the experiment has taken place.

HYPOTHESIS—EVIDENCE NOTES

Hypothesis

I predict that the groups assembling the white blank puzzles will be _____ than the groups assembling the colorful children's puzzles.

(students will predict either "slower" or "faster" on the blank hypothesis line)

Conclusion Writing Template

I think the groups using the colorful children's puzzles were faster than the other groups for two reasons.

First,

Second,

Therefore,

Here is an example of the data taken from my room in the 2006-2007 school year doing this very experiment, along with a student's response to the experiment.

HYPOTHESIS—EVIDENCE NOTES

Hypothesis

I predict that the groups assembling the white blank puzzles will be slower than the groups assembling the colorful children's puzzles.

Evidence

Blank puzzle time - 6:43 min.

Colorful puzzle time - 2.04 min.

Student Conclusion Writing Template

"I think that the groups using the colorful children's puzzles were faster than the other groups for two reasons. First, the groups using the children's puzzle could keep going back to the picture to see if they were on the right track and the other groups had nothing to go back to. Second, the groups using the blank puzzles had nothing to arrange pieces by, except the round edge or no round edge and the groups with the children's puzzle had color, corner pieces, flat edges and all other edges to arrange their pieces faster. Therefore, it was easier for the groups using the children's puzzle to be faster because they had so much more to refer to as they worked."

You may also "tweak" this experiment by adding another variable of requiring the group with the blank white puzzles to work individually rather than in teams to stress the importance of discussion in learning. The kids who don't get to talk become frustrated, and the experiment takes quite a bit longer if you wait for everyone to complete their own puzzles. The payoff is increased student awareness regarding the importance of purposeful discussion in their learning.

The discussion that followed this experiment in my room was profound. Kids realized just how important the image, shape, and color of the puzzle were to their success, which could be readily connected to background knowledge. For some of them, the light went on for the first time as I referred once again to the huge CRISS Reflection banner on my wall, which emphasizes the importance of each of the Principles and Philosophy of learning. One young lady said, "So the picture is like our background knowledge—we keep going back to it as we learn, to fix up our comprehension." I answered her with a huge smile and a resounding "YES!"

As I prepared to write this article, I was inspired by the work being done in my school district with nonfiction reading strategies through the use of The Comprehension Toolkit, (Harvey and Goudvis, 2005). Within one of the six cluster books, a lesson design entitled “Connect the New to the Known” stresses the importance of intentionally teaching kids “when good readers read, they think about what they already know about a topic and they keep this background knowledge in mind. When we pay attention to what we already know and connect it to new information, we better understand what we read.” As students are working, they are constantly making their thinking visible by putting pencil to paper about what they know and what they are learning about a topic on a “Think Sheet” with the following headings:

What I know

What I learned

At the front of the room, an anchor chart has the same headings for pairs or groups to have their collective ideas recorded for the benefit of the entire class.

Acknowledging that we can have some misconceptions in our prior knowledge is a crucial part of the learning process, since we want our students to become aware of their own misconceptions and address them as they read. Harvey and Goudvis explain that “kids sometimes have limited or inaccurate background knowledge, so we encourage them to also check the evidence in the text to determine accuracy. As we read, we add to our knowledge base, sometimes change our thinking, and even clear up misconceptions.” Teacher modeling of this form of comprehension cleanup, through the use of a think-aloud from the student text, is crucial for students to understand how to fix up their own misconceptions in background knowledge.

Nancy Fordham, in her informative article “Strategic Questioning,” points out the importance of questioning in deep learning. Good readers question the text, looking for answers to their own questions, along with a myriad of other reading strategies, including making predictions, personal connections, inferences, visualizations, and clarifications. Fordham is a proponent of the use of questions as students are reading, rather than using them only after the reading has been completed. She states that even though “questions could be asked after students read; they are invaluable in guiding students as they read text material.” I could not agree more and have used both teacher- and student- and student-generated questions to help students become purposeful when they read both fiction and nonfiction material.

In my reading classroom, I provide students with a variety of strategies to use when they encounter challenging vocabulary concepts while reading. One strategy which I created is called Discovery Vocabulary, in which kids discover the meaning of specific words while in the process of oral reading, followed by discussion, and finally visualization.

Discovery Vocabulary

Preparation

Prior to beginning a class novel, I pull vocabulary words from each chapter of the book that might be confusing to students, as well as words that are necessary to comprehend big ideas in the text. I then write a simple definition of the word based on the context in which it is used in the book. For each chapter, I put a sequential list of words across the top of a transparency, with correct, yet randomly ordered definitions, below the word list.

Procedure

I keep the definitions covered while we are reading and ask the kids to be purposeful in discovering the words they see on the overhead screen in the context of the reading. They are asked to stop our oral reading of the book by raising their hands when they come to the word. When a hand goes up, I stop the reading and ask the students in pairs or groups to discuss the possible meaning of the word. After a quick discussion, I reveal the random definition list and see if they can discover a definition that most closely matches their group’s prediction of meaning. Most of the time they are right but, if not, their misconception of meaning is cleared up immediately by seeing the correct meaning. For example, the word “occupation” is used in the context of “the German occupation of Denmark” in a class novel that we read every year. My 7th graders’ understanding of this word is almost always tied to a job when they look at the word in isolation, but when they see it in context they know that their background knowledge is not correct in this context. They have to look at the use of the word in the sentence. When students see the definition (one country taking over another country by force) they immediately connect the words “German” and “Denmark” to understand the meaning of the word “occupation.”

Next, I ask them to visualize the meaning in a mental picture. When discussing occupation, one young man told me the picture in his head was of a soldier standing on every corner of a city, because the author had said this earlier in the story.

This has been a very powerful and purposeful strategy to use with my students with comprehension as the end goal.

Background knowledge and purpose setting are essential if we are to dive into deep learning—taking students beyond where they simply tread water and move them from this surface level learning experience to greater depths. The degree of learning is determined by the intentional activation of background knowledge and purpose setting by both teacher and student alike, to reach the treasure chest of understanding waiting at the bottom of the pool of learning. Get ready to take the plunge and DIVE DEEP!

**The following Web sites and references provide additional information
on background knowledge and purpose setting.**

Internet Sites of Interest and References

Bank Street. Background Knowledge: Making Connections between New and Known Information
<<http://www.bnkst.edu/literacyguide/back.html>>.

North Central Regional Educational Laboratory. Critical Issue: Building on Prior Knowledge and Meaningful Student Context/Cultures
<<http://www.ncrel.org/sdrs/areas/in0cont.html>>.

North Central Regional Educational Laboratory. Critical Issue: Working Toward Student Self-Direction and Personal Efficacy as Educational Goals
<<http://www.ncrel.org/sdrs/areas/in0cont.html>>.

The Library Lady TLL Education Services. Building a Network of Prior Knowledge
<<http://www.thelibrarylady.net/>>.

Northwest Regional Labs. Web-Based Resources—Brainstorming Map
<http://www.nwrel.org/learns/web-based/resources/Brainstorming_Map.pdf>.

Fordham, N. Strategic Questioning. Principal Leadership—Middle Level Edition, September: 33–37. 2006.

Harvey, Stephanie and Anne Goudvis. The Comprehension Toolkit: Activate and Connect. Portsmouth, NH: Heinemann, 2005.
<<http://www.comprehensiontoolkit.com>>

About the Author: Sue Eggart, CRISS National Trainer, teaches at Sacajawea Middle School in Spokane, Washington, where she is a reading teacher. She occasionally teaches keyboarding and physical education. She is the Reading Department Coordinator for her building and has provided CRISS training for hundreds of teachers in her school district. In her 20 years of education, she has taught every grade from kindergarten to seniors in high school, and has taught Content Area Reading as an adjunct professor at Eastern Washington University in Cheney, Washington.

Her hobbies include spending time with her husband and family (including her first grandbaby—Macy), focusing on fitness, participating in Bible studies and ministries, reading, and taking time to be with friends.

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