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Using Reading and Writing to Enhance Your Agriculture Classroom

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Frontloading Literacy: Strategies to Boost Comprehension

by Kellie Claffin

I remember sitting in my classroom dumbfounded and a bit ashamed. How had I been teaching for five years before realizing that my students didn't understand everything they read? I mean, I utilized a ton of literacy strategies and really tried to focus on my students reading and writing in agriculture. However, it wasn't until a cold winter day in northeast Wisconsin, when I convinced my small forestry class to read an article during a lesson on logging history, that I recognized my students were really, really good at pretending they understood everything we were reading.

As we read through the article, me reading out loud and the students following along, we would stop throughout and discuss. Fortunately, my students were comfortable enough to admit they didn't know a few of the words during one of these discussions. A confession which made all the difference for the lesson and my teaching practice. I had been missing an important part of literacy - making sure my students were prepared before reading.

According to Learned et al. (2011), "When students do not have the knowledge necessary to comprehend a particular text, such knowledge needs to be built; one cannot activate what is not there, and one cannot strategize about things one does not know" (p. 181). To increase student comprehension, whether they are reading an article, following directions during a lab, or using an instruction manual for a piece of equipment, as educators we need to help

them make connections. Connections to previous knowledge help narrow the gap between what students know, what they need to know, and what needs to be reinforced. For example, before a science-based lab activity, it is obviously important to make sure students recognize the types of equipment (e.g. pipet, graduated cylinder, compound microscope) and terms (e.g. catalyst, gauge, meniscus) before starting the activity.

An emphasis on *frontloading* provides a unique approach that occurs before reading/learning and addresses the knowledge demands by making connections, activating and sharing current knowledge, and asking questions (Buehl, 2013).

Types of Connections Buehl (2013) shares three types of connections students can make when reading or engaging in lessons to increase comprehension: text-to-self, text-to-text, and text-to-world. These connections should be modeled and used to stimulate student discussion and reflection as it relates to the goal of the lessons. Below are descriptions of each of the three types of connections and example prompts.

- Text-to-self connections encourage students to consider their own personal experiences.
- How does this text relate to my life?
- How is this different from my life?
- Text-to-text connections challenge students to draw on other readings to reinforce their knowledge.

- What else have I read that can help me understand this?
- Have I read something like this before?
- Text-to-work connections allow students to recall ideas about the topic from other sources, classes, or experiences.
- What have I heard about this before?
- How does this relate to the real world?

Strategies

The frontloading strategies listed below can be utilized in a range of different courses as a way to encourage comprehension. These strategies were taken from Buehl's (2013) book *Classroom Strategies for Interactive Learning* (check it out!). You may have utilized several of these ideas before, however they are incredibly helpful to use specifically for frontloading to assist students in making connections and activate prior knowledge.

Brainstorming

What is it: Students think about associations with the topic or word. Employing different ways of presenting brainstorms can also provide a useful framework for students. Students could create a word map or a list of words. Additionally, students could think of a word for each letter of the alphabet or a related word or phrase (e.g. agriculture, horticulture, etc.).

Why is it important: Through brainstorming, students can recall prior knowledge and ideas from their own life.

Example: When I taught a middle school exploratory agriculture class, I had my students brainstorm words that were related to agriculture for each letter of the alphabet. After they completed the task, our class discussion focused on what they already knew about agriculture and examples from their own experience before we defined the term.

Possible Sentences

What is it: After students are provided with a series of keywords and phrases, students rely on their prior knowledge to develop sentences using the words/phrases. You can provide guidance for this strategy by limiting the number of keywords to be used and/or how many sentences they should write. For example, you may ask students to write one sentence using at least three of the words/phrases provided.

Why is it important: This strategy allows students to investigate vocabulary and make predictions.

Example: For a lesson about habitats, my high school students created possible sentences with a vocabulary tic-tac-toe board. There were nine terms and students

were asked to write a sentence using three of the terms presented straight across, straight down, and diagonal. Our class discussion centered on defining terms, the connections between vocabulary words, as well as previous knowledge on habitats from other classes.

Anticipation Guides

What is it: Before sharing a reading (or video), students read a series of statements as identified by the teacher. For each statement, they select if they believe the statements to be true or false. After completing the reading, students then review and correct their answers if needed.

Why is it important: Not only does an anticipation guide encourage students to think of prior knowledge, it provokes interest and sets a purpose for the reading.

Example: I used an anticipation guide on the first day of class in my high school forestry class for an article on how the Forest Service saved baseball. Students were provided a list of statements, asked to check the ones they believed to be true, and then we read the article as a class. After completing the article, students revised their predictions on their handout as we discussed as a class.

As you incorporate these frontloading strategies to aid students in being prepared for learning, my most valuable piece of advice is to model the techniques for your students. When you ask them to make text-to-text connections, provide your own response. Before asking students to brainstorm using a specific technique, walk through an example show-

How the Forest Service Saved Baseball

Directions:

- Read the following statements concerning how the forest service saved baseball.
- Put a check next to each statement you believe to be true.
- Be prepared to support your views and share with other members of the class.

	1. Major League Baseball commissioned a \$500,000 investigation into finding out why bats were shattering.
	2. Under 500 bats shattered during 2008 MLB season.
	3. The United States Department of Agriculture was in charge of researching the cause.
	4. The type of wood in bats plays a major facture in the splitting of the wood bats.
	5. The cut of the grain did not play a major facture in the splitting of the wood bats.

casing your expectations, as well as the process. Additionally, talk to your students about the importance of making connections and drawing on prior knowledge before reading and why you are asking them to use the strategies. It will make the difference.

References

Buehl, D. (2013). *Classroom strategies for interactive learning* (Fourth Edition). International Reading Association.

Learned, J. E., Stockdill, D., & Moje, E. B. (2011). Integrating reading strategies and knowledge building in adolescent literacy instruction. *What research has to say about reading instruction*, 4, 159-185.



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Name: _____

HABITAT TIC TAC TOE

BIOME	COVER	ANNUAL
TERRESTRIAL	STRUCTURE	SIZE
SUCCESSION	LAYER	PATTERN

Sentence straight across:

Sentence straight down:

Sentence diagonal: