Two Ways of Explaining the Listening and Learning Strand

By Matthew Davis

Those of you who have been keeping up with the Core Knowledge Reading Program know that we are in the process of building a program that will have two strands of instruction: a Skills Strand and a Listening and Learning Strand. In my last **article**, I wrote at some length about the Skills Strand and our strategy for teaching decoding. In this article I want to try out a couple of different ways of explaining what it is we are trying to accomplish in the Listening and Learning Strand.

The heart of the Listening and Learning Strand is in the *Tell It Again!* anthologies, which are collections of stories and nonfiction read-alouds for teachers to share with students. The read-alouds are grouped into thematically-unified clusters that we call domains. For every year of instruction, grades K–5, there are (or will soon be) 12 domains consisting of 150 daily lessons. The domain topics cover many of the topics from the *Core Knowledge Sequence*. In kindergarten, students hear read-alouds from Nursery Rhymes and Fables, Seasons and Weather, Plants and Crops, Farm Animals, and more. In first grade they will hear about Fairy Tales, Astronomy, Colonial Biographies, and Animals and Habitats, among others.

But what's the point of all this reading aloud? One way to explain it is to say that the Listening and Learning Strand is a *vocabulary-building program*. Written language is richer in vocabulary than spoken language. By reading these stories aloud to children, teachers will be able to expose children to many words they would probably not hear in everyday conversation. The children will not learn *all* of these words to a testable level, but they should learn *some* to that level — particularly the ones that come up several times in the read-alouds and ensuing discussions — and they will begin to acquire traces and rudiments of knowledge for many other words. In short, this strand is called the Listening and Learning Strand because we expect children to *learn* many words by *listening* to stories read aloud. This in turn should help them become stronger readers, since vocabulary knowledge is very strongly correlated with reading comprehension. Children who know lots of words tend to be stronger readers than children who know only a few. A child with a rich vocabulary is more likely to understand the words he or she decodes.

I am about 90 percent comfortable describing the Listening and Learning Strand as a vocabulary-building program. I certainly won't complain if other people want to think about it in that way. But, at the same time, I think it may be possible to give an even more precise description of what we are trying to do in this strand. The problem with describing the program as a vocabulary-building program is that it may lead us to think about vocabulary acquisition as being an end in itself, when, in reality, vocabulary knowledge is simply indication of something larger. As E. D. Hirsch likes to say, what we are trying to teach is not just *knowledge of words*, but *knowledge of the world*. These two things are closely connected, but the second is a larger category than the first. Knowing words like *seed*, *leaf*, *flower*, and *bloom* is an indication that you know something about the real-world organisms known as plants and crops. What we need is a term that includes word knowledge but also hints at something larger.

Therefore, I want to put forward another way of explaining what we are trying to achieve with the Listening and Learning Strand. I want to say that the Listening and Learning Strand is a *schemata-building program*. *Schemata* is not an everyday word, but it is appropriate here and worth further consideration. *Schemata* are not to be confused with *stigmata*, the bleeding wounds associated with Jesus. But both words do come from the Greek, which explains the unusual plural forms. The singular of *schemata* is *schema [*pronounced *SKEEM-uh].* Although the noun *schema* is considered an English word, the adjectival form *schematic* is more familiar to most of us.

of us.

The Merriam Webster Collegiate Dictionary describes a *schema* as "a mental codification of experience that includes a particular organized way of perceiving cognitively and responding to a complex situation or set of stimuli." This rather complicated definition reminds me of Byron's remark on Coleridge: "I wish he would explain his explanation." It is actually a very accurate definition, but it is not easy to get your mind around.

The American Heritage Dictionary (fourth edition) offers a slightly easier definition. It defines a *schema* as "a pattern imposed on complex reality or experience to assist in explaining it, mediate perception, or guide response."

One might say a schema is a set of connected ideas about something, or a basic understanding of a concept. Even shortening the Merriam Webster definition to "a mental codification of experience" gives some sense of what the word means. But perhaps the best way to explain the meaning of the word *schema* is to present a little experiment.

Try reading the following passage and see if you can make sense of it.

> *With hocked gems financing him, our hero bravely defied all scornful laughter that tried to prevent his scheme. "Your eyes deceive," he had said. "An egg, not a table, correctly typifies this unexplored planet." Now three sturdy sisters sought proof, forging along, sometimes through calm vastness, yet more often over turbulent peaks and valleys. Days became weeks, as many doubters spread fearful rumors about the edge. At last, from nowhere, welcome winged creatures appeared, signifying momentous success.*

If you had trouble reading this, you are not alone. I can probably help you out by giving you a *schema* that will serve as a key that will guide your response and allow you to unlock the meaning of the passage. Click **here** to get the schema.

Would you like to try that little experiment again? Here is another passage which is difficult to understand until you can attach it to a schema.

> *Joe looked outside from cramped quarters. Numerous unknown objects moved swiftly by in vague blackness around his field. Two fearless companions worked along, manipulating buttons, while reading complex patterns. Flat familiar homeland now actually resembled a tiny rubber ball. Everyone here and at home knew that only lifeless things would be found among huge, cold mountains surrounding deep, barren valleys, but all important papers anxiously awaited their first arrival, for no man had ever made such big news.*

Click **here** if you'd like to get the schema.

I hope this demonstration helps you understand what a schema is. A schema is a cluster of related ideas that add up to understanding of a topic. If you have a schema for Christopher Columbus and I tell you that the first passage is about Columbus, you can make the ambiguous bits clear and make sense of what is otherwise a very ambiguous passage. And the same is true for the second passage: if you have a schema for moon landing, many otherwise puzzling words and phrases become clear. In short, having a schema allows you to make sense of what you are reading.

But what happens if you don't have schemata for Christopher Columbus and the moon landing? Then you are in trouble. You are going to have a very hard time making sense of these passages, even if you are able to decode most of the words, and even if you know what most of them mean. That is precisely what happened when two cognitive psychologists, James Dooling and Roy Lachman, gave these passages to college students without supplying a schema. Only 4 of 180 students (about 2%) were able to figure the passages out. This is a very clear demonstration that reading comprehension depends on something more than decoding skills. Presumably these

demonstration that reading comprehension depends on something more than decoding skills. Presumably these college students could decode the words, and yet almost none of them could make sense of them.

When the schema was provided, and the passages were printed with disambiguating titles like "Christopher Columbus," performance was much better. But still not everyone could make sense of the passages. It may be that the schema some students had for Christopher Columbus was not robust enough to help them resolve all of the ambiguities in the passage.

The two passages quoted above are obviously very artificial. The researchers worked hard to create passages that were very ambiguous, and your first reaction may be to say that these little stories are so artificial and so unlike the sort of things we usually read that the experiment tells us little about real-life reading experiences.

I don't believe that this first reaction is correct. Since the time of Dooling and Lackman's experiment a great heap of evidence has accumulated showing that reading comprehension requires not just decoding skills but also the application of schemata—or background knowledge, if you prefer—and that many readers struggle to make sense of what they read precisely because they do not have the schemata they need to unlock the meaning.

A passage that mentions George Washington and the cherry tree may pose no problem for you, a literate adult, but if you were a child and you had never heard of George Washington or the (alleged) cherry tree incident, you would not be able to understand the surface reference, much less connect the story to its moral about honesty. A passage with a reference to this story might be every bit as baffling and opaque as the two passages above. In short, if you don't have the schemata you need to make sense of things, reading comprehension is going to be very difficult.

I hope you are now in a position to understand what I meant when I described the Listening and Learning Strand as *a schemata-building* program. We want to teach students not only a mess of unrelated vocabulary words but also a set of schemata that organize and anchor those words. We want to give children schemata for Columbus and for the moon landing. But that's not all. We also want to give them schemata for plants and crops, farm animals, and astronomy, for Mozart, and Montezuma, for ecology and geology, for the Renaissance and the Reformation, for the Civil War, for Greek Mythology and Hinduism, for Gulliver and Cinderella. You can think of the *Core Knowledge Sequence* as sketching the outlines of dozens of schemata. Our challenge in creating the Listening and Learning Strand is to find ways to teach those schemata to students.

So that's two ways of looking at the Listening and Learning Strand. You can think of it as a vocabulary-building program, or you can think of it as a schemata-building program. Either way, we believe this program will help give students the knowledge they need to make sense of a wide range of spoken and written material.

* Article cited: D. James Dooling and Roy Lachman, "Effects of Comprehension on Retention of Prose." *Journal of Experimental Psychology* 88.2 (1971) 216-222.