

DONNA WALKER TILESTON

**What Every Teacher  
Should Know About**  
Effective Teaching  
Strategies



# Contents

<b>About the Author</b>	<b>vii</b>
<b>Acknowledgments</b>	<b>viii</b>
<b>Introduction</b>	<b>xi</b>
<b>Vocabulary Pre-Test</b>	<b>xv</b>
<b>1. Making Good Decisions About Instructional Strategies</b>	<b>1</b>
How Do We Implement the Objectives?	3
Why the Way We Teach Is Important	4
The Linguistic Modality	6
The Nonlinguistic Modality	6
The Affective Modality	6
Semantic Memory	7
Episodic Memory	8
Procedural Memory	10
Automatic Memory	10
Emotional Memory	10
<b>2. Choosing Effective Teaching Strategies for Beginning Activities</b>	<b>15</b>
Great Beginnings	15
The Self-System	23
<b>3. Working With Declarative Information: Teaching for Meaning</b>	<b>31</b>
Constructing Meaning From Declarative Information	32
Organizing Declarative Information	35
Storing Declarative Information	35
Using the Semantic Memory for Storing Declarative Information	36

Making Good Choices for Declarative Information	37
Declarative Goals: Vocabulary	37
Declarative Goals: Facts	39
Declarative Goals: Using Sequences	40
Declarative Goals: Understanding the Order of Events	42
Declarative Goals: Organizing Data or Ideas	44
Declarative Goals: Teaching Details	45
Episodic Memory	46
Procedural Memory	48
Automatic Memory	48
Emotional Memory	49
<b>4. Procedural Knowledge: Teaching Strategies That Work</b>	<b>51</b>
Helping Students Construct Models	54
Teaching Procedural Knowledge That Requires Algorithms	54
Strategies to Help Construct Models	57
Shaping Procedural Knowledge	58
Internalizing Procedural Knowledge	58
The Metacognitive System	59
<b>5. Graphic Organizers: Strategies for Thinking</b>	<b>61</b>
Graphic Organizers	62
<b>6. Using Verbal Strategies in the Classroom</b>	<b>73</b>
Brainstorming	73
Socratic Questioning	74
Quaker Dialogues	75
Real-World Application of the Learning	76
<b>7. Anatomy of a Lesson</b>	<b>79</b>
General Guidelines for Lessons	86
<b>Vocabulary Summary</b>	<b>91</b>
<b>Vocabulary Post-Test</b>	<b>103</b>
<b>References</b>	<b>109</b>
<b>Index</b>	<b>112</b>

# 1

## Making Good Decisions About Instructional Strategies

*Expert teachers generally are comfortable with a wide range of instructional strategies, and they vary them skillfully with the nature of the learning task and learners' needs.*

—Berliner, “In Pursuit of the  
Expert Pedagogue”

**T**omlinson (1999) talks about a classroom where the needs of all students are met. She says that in that classroom, teachers use instructional practices “to create classrooms where students have the opportunity to work at a comfortable pace, at an individually challenging degree of difficulty, in a learning mode that is a good match for their learning profiles, and with applications that are personally intriguing.”

## 2 Effective Teaching Strategies

Much is said about the alignment of curriculum to assessment, but little is written about the alignment of instructional strategies to curriculum and assessment. How can we make informed decisions about how to teach in the most effective way? Once we know the standards, the benchmarks for our subject/grade level, and our own objectives, how do we decide which instructional strategies will make the most difference in student learning? In the past, this has often been a hit-or-miss proposition, but we now have research to make better decisions about how to teach. Ask, “What is it that you want to accomplish with the instruction? Which skills and processes do students need to be able to carry out?” In my book, *What Every Teacher Should Know About Instructional Planning* (2004a), I talk about how to plan lessons around standards—both state standards and teacher standards—identified as objectives. In this book, I will talk about putting together a bag of strategies for teaching that ensures students learn and remember and that is directly aligned with the state and national standards.

Once the standards are identified, teachers develop declarative objectives that state the expectation in terms of what students will know as a result of the learning, and procedural objectives that identify what students will be able to do with the learning. For example, for a lesson in literature on O’Henry’s short story, “After Twenty Years,” my declarative objectives might look something like this:

Students will know (declarative objectives):

1. The vocabulary associated with the story.
2. The choices available to both characters.
3. The character traits of the two main characters that influenced their decisions.
4. The steps that we go through in making choices.
5. The concept of cause and effect.
6. Ways O’Henry uses suspense effectively.

All of these objectives are factual in nature and are stored in long-term memory in a different pathway than the procedural objectives. Thus, they are taught in a different way than procedural objectives. The procedural objectives for the same lesson might look like this:

Students will be able to (procedural objectives):

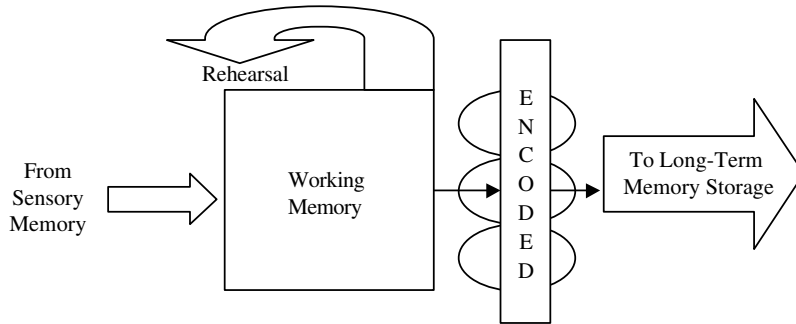
1. Develop a graphic model that shows cause and effect.
2. Use a graphic model to determine which choices they would make in the same situation as the main characters.
3. Write a character sketch about one of the characters.
4. Use logic and analysis to determine if the two characters are good friends.
5. Write a second ending to the story.

In the second set of objectives, students must actively do something with the declarative information. They are demonstrating understanding through processes, which are stored in a different pathway of the brain than factual information. Note that students need both types of objectives. Without the declarative objectives, the procedural objectives would be impossible to achieve, and without the procedural objectives, the declarative objectives would lead to shallow learning.

## **HOW DO WE IMPLEMENT THE OBJECTIVES?**

The “how” of teaching, then, relies on what the classroom teacher wants to accomplish with the learning. For example, if the purpose of the learning is to help students understand and be able to use vocabulary for a given unit of study, the declarative objectives would be written so that it is clear that students will not only be familiar with the vocabulary words and their meaning but will be able to use those vocabulary words in the context of the unit of study. Research shows that students are more likely to understand vocabulary words

**Figure 1.1** Diagram of New Information From Sensory Data to Long-Term Memory



when these are taught using specific techniques. We will look at both the general categories of teaching and the specific teaching strategies that help us to reach learner goals.

### WHY THE WAY WE TEACH IS IMPORTANT

In order to have a clearer understanding of the thinking systems—the self-system, the metacognitive system, and the cognitive system—it is necessary to look at the modalities that affect the way we teach and the way students learn.

About 99% of all we learn comes to us through the senses. The brain takes about 15 seconds, or less, to decide what to pay attention to and what to discard. Approximately 98% of the information coming through the senses is discarded. That means that 98% of the information going to your students in the form of words, pictures, smells, tastes, and touch is lost. No wonder they don't remember! The illustration Figure 1.1 shows, in a simplistic format, information coming into the brain.

What happens to this incoming sensory information during those 15 seconds is critical to how the brain processes the information and whether it is sent to storage systems in long-term memory. How we introduce the information,

whether it is deemed to be important, and how we “rehearse” it are important indicators of whether the information will be stored and whether it can be easily accessed when needed. Rehearsal can be rote—that is, simply repeating it or doing it over and over so that it becomes automatic—or it can be active. Active rehearsal involves using the information in some way that is meaningful and useful. Some information and processes are learned better through rote rehearsal, and others are learned best through active rehearsal.

According to Marzano (1992) we should use rote rehearsal when the information will be used in the same format as the rehearsal, for example, multiplication facts. We use active rehearsal when it is important for students to be able to connect the information to other contexts. For example, when studying the Boston Tea Party, we want students to understand the reactions of people when they are not a part of the decision making process. We want them to understand this concept in many settings, not just as it applied to taxes placed on the colonists.

Prior to moving to long-term storage, the sensory information must be processed. There are three modalities responsible for processing the information and sending it to the appropriate storage pathway in long-term memory. This process is important because students may learn information but not be able to retrieve it easily, since it has not been encoded in a way that is appropriate for retrieval. For example, ELLs (English language learners) will have difficulty encoding information in the linguistic modality because they do not have sufficient vocabulary to encode the information into semantic memory, which is the memory pathway that stores words, facts, vocabulary, and so on. For these students the episodic pathway may be more appropriate because it includes context, pictures, and nonlinguistic methods of storage. How learning is processed or encoded determines where it will be stored. The three modalities actively involved in how information is stored are linguistic, nonlinguistic, and affective (Marzano, 1992).



# 6

## Using Verbal Strategies in the Classroom

Many of the instructional strategies discussed in this book are visual. I emphasize visual strategies because we know that at least 87% of the learners in any given classroom are visual learners. They need to see the learning before it has meaning for them. As a matter of fact, Jensen (1997) says that these learners will often say, “I see” when they finally understand the information being presented. Graphic organizers are great strategies to help these learners make sense of the learning.

In this chapter, I want to discuss several strategies that are important for students who need and enjoy verbal stimuli in the classroom. The strategies that I will present are brainstorming, questioning, Socratic questioning, Quaker dialogues, and models for thinking and for real-world application of the learning.

### BRAINSTORMING

Brainstorming is a great idea for getting many ideas on the table. It can be accomplished with the whole class or with small

groups. Prior to beginning the brainstorming, students need to be given a set of rules so that the brainstorming session is successful. Here are the rules that I most often use:

- *Everyone participates*—I want my students to know that this is my expectation.
- *Say what comes to mind*—Sometimes a student has an idea that is pretty off-the-wall, but it may give another student an idea that is viable.
- *No put-downs*—The idea of brainstorming is to get many ideas on the table. At this point we are not looking for quality as much as quantity. If one student says something that sounds crazy and another student tells him so, the chances are that the first student will not provide any more ideas.
- *Piggyback on each other's ideas*—This is one time when it is okay to copy someone else's idea. This is how great ideas are born.

I have an additional rule for myself: Don't stop the brainstorming too soon. The really creative ideas usually come after everyone has gotten the common ideas on the table. For example, if we were brainstorming things that are red, students usually say fire truck, stop sign, nail polish, and so on. After we get rid of the common ideas, we may get things like rage, Red Badge of Courage, and more.

## SOCRATIC QUESTIONING

Socratic questioning techniques or seminars provide opportunities for students to use higher-level thinking strategies in regard to the subject matter. When executed well, these activities give students opportunities to provide their own interpretations and viewpoints and to use critical thinking and problem solving. In my classroom, I model the format by taking responsibility for the first of these seminars. After my students understand the tactics involved, I allow them to take

over the process. Students, working in small groups, discuss given questions about the learning. Paul (1990) provides the following guidelines for the questions. The type of questions chosen, of course, depends on the subject matter and the objectives for the learning.

1. Questions to clarify. For example, "What do you mean by . . . ?"
2. Questions that probe assumptions. For example, "What is the underlying problem?"
3. Questions that probe reasons and evidence. For example, "What are your reasons for saying that?"
4. Questions about viewpoints or perspectives. For example, "How might that look to a . . . ?"
5. Questions that probe implications and consequences. For example, "What might happen if . . . ?"

For a small-group discussion, a student leader might start a discussion on pollution by asking each member of the group, "Does pollution have different meanings to different people?" (a clarification question).

Next, the student leader might ask, "What are the underlying reasons for different definitions? For example, the definition of pollution to a factory owner, to a politician, to a member of Greenpeace, and to the parents of a new baby?" (a question that probes assumptions).

The leader might also ask, "What are your reasons for your beliefs?" (a question that probes reasons).

## QUAKER DIALOGUES

Quaker dialogues are similar to Socratic questioning (questions begin with simple clarification questions and become more complex with time) but are done in a whole group context with the teacher as the facilitator. Everyone sits in a circle.