



❧ Chapter 8 ❧

Scaffolding Instruction: Support Students as They Learn

You never really understand a person until you consider things from his point of view — until you climb into his skin and walk around in it.

—Atticus Finch from To Kill a Mockingbird by Harper Lee

I keep Atticus’s advice in mind when contemplating the needs of students who arrive at school with diverse backgrounds, experiences, and knowledge. Walking in another’s shoes (becoming the person and trying to think like him, to paraphrase one fifth grader) is at the core of responsive teaching; it can deepen our understanding of students’ frustrations, anxieties, hopes, and victories (Rudell and Unrau, 1997). By watching students read and practice strategies, by interpreting their body language, by listening to their conversations, by reviewing their written work, it’s possible to identify those who need support to comprehend texts, take notes, complete an experiment, solve a math problem, or participate in a discussion (Graves and Graves, 1994; Goodman, 1985).

This watchful, responsive work we do is called *scaffolding*, a term with obvious links to the word scaffold, the framework that envelops a building while it’s under repair. This metal or wood platform supports construction workers as they fix whatever is weak in the building’s structure. In the classroom, teachers serve as this steady “platform,” supporting instruction for those students who “don’t get it” by giving them precisely the guidance they need to solidify their understandings of the concepts or strategies.

The need for scaffolding exists before, during, and after students learn, and responsive teachers work diligently to pinpoint those students who require additional help as they learn within the three-part framework (see pages 231, 245–249).

Scaffolding in Grade 4

I’m circulating around a room of fourth graders at work taking notes on the human body’s systems. Each student has a book with information about the body part he or she has been assigned to research and several sticky notes. They write their name, date, and the title of their book, just as I’d modelled in my mini-lessons on how to pose during-reading questions, and I’m pleased to see so many students using the book index to locate specific information.

Then I pause at Colleen’s desk, and the warm glow of feeling that my lessons have worked fades. Colleen is reading about the esophagus, but the questions she’s jotted on her Post-its are: *What happens to food in the stomach? Why does your stomach make noises?* When I asked Colleen why she didn’t have questions about the esophagus, she said, “I’m wondering about the stomach more.”

My mind is like a maelstrom: What are other students writing? Why isn’t Colleen posing more text-related questions? I move on to Nathan, who is reading about white

blood cells. Here are the questions he's posed: *How do red cells help? What cells carry oxygen and food? How does blood clot?* When I chat with Nathan, he tells me that he was thinking more about the red cells and scabs than about white ones.

I continue to circulate. Most of these fourth graders had great questions, but their queries aren't directly related to their reading, and therefore *won't* help them take effective notes.

Clearly, my demonstration of reading for specific purposes (note taking) and raising text-related questions while reading hadn't been enough, and the note taking assignment I'd given them was too open-ended for this group.

Now, here's where the scaffolding comes in: I immediately shift gears and structure the note taking process further by creating lists of key terms that relate to the system each group is researching. The lists set a purpose for reading and taking notes. Groups divide the terms in each list among members, gather information, share their notes, then research the questions they posed in their inquiry notebooks (see page 75). When these fourth graders were given the lists of key terms, they were given the support they needed to complete the task.

Scaffolding: Some General Guidelines

Know Your Students. Custom-tailoring instruction can occur only if you have sufficient information and insight about a student. Collect data and interpret observations and assessments of students. Data to consider include written work, oral presentations, projects, quizzes, tests, and class participation. Invite insights from colleagues who've taught the student before. And last but not least, seek insights from students themselves.

Schedule mini-conferences to gather students' feedback on their learning.

Scaffold one on one and in small groups. Some students benefit from 5 to 10 minutes of reteaching. Those with common problems, such as a lack of background knowledge and weak vocabulary, can work with you in pairs or groups of three. The scaffolding experience should be short and build on what students know and can do (Graves and Graves 1994).

Make the modelling of reading strategies clear and explicit (Pearson and Gallagher, 1983). Using a text the student is reading, think aloud and demonstrate how rereading or retelling supports comprehension and recall. Gradually move students from one level of competence to the next.

Prevent “The Matthew Effect.” Keith Stanovich (1986) coined this phrase to describe the phenomenon where struggling readers are deprived of access to appealing texts. Traditionally, this group spends more time completing skill sheets, reading stilted, controlled texts, or not reading at all. We must nurture struggling readers’ development and motivate them to practice reading by offering them the finest nonfiction texts they can read and comprehend (1986a).

Avoid teaching new strategies in an attempt to repair a student’s difficulties. Doing so is time-consuming and can confuse students (Graves and Graves, 1994). Instead, reteach by repeated modelling of the strategies a student knows but has yet to “own,” and then give him practice with using these strategies. If a student or small group still doesn’t get the strategy, move on and come back to it later. Meanwhile, continue to teach the class new strategies for other topics and enlarge their repertoire of ways to improve comprehension.

Teach in the Zone. Whenever you scaffold instruction, you assist your students within a zone that Lev Vygotsky calls the *zone of proximal development* (ZPD). Students in the ZPD can do with teacher support what they cannot accomplish by themselves. In this zone, students learn new information and ways of completing tasks. However, asking students to do a task *beyond* their ZPD can be counterproductive. For example, asking a sixth grader reading three years below grade level to learn from a grade-level history textbook will result in student failure and frustration. Likewise, giving students tasks *within* their *zones of actual development* (ZAD)—the zone in which one can do something independently—means very little learning takes place, though such tasks may build confidence and fluency (Wilhelm, 2001).

Aim for independence. The goal of all scaffolding is to move students performing a new task from the ZPD into the ZAD. The end goal: ensuring that students have a full repertoire of strategies for reading and learning they can use independently.

Scaffolding: The Seven Basic Steps of the Process

To give you an overview of how to scaffold, I have adapted the seven steps that literacy researchers Taylor, Harris, Pearson, and Garcia have identified for the explicit instruction of reading strategies (1995):

1. Pinpoint what kind of scaffolding a student needs.
2. Help the student understand the need for and area of help.

Tips for Successful One-on-One Scaffolding

- **Motivate students.** Read a short, high interest selection. Invite students to look at photographs or share your experience. When you interest learners in the reading or a project, you can develop the desire to work hard even though the material may be difficult. Teachers can foster motivation among students by setting specific, short-term goals that lead to completing parts of a project successfully and by continually offering positive feedback when students' have earned it (Schallert and Reed, 1997; Schunk and Zimmerman, 1997; Wigfield, 1997).
- **Sit side by side as you explain.** Closing the gap between the student and your demonstration can help the student focus on what you are saying and doing and improve understanding.
- **Focus on one need and limit the encounter to 5 to 10 minutes.** I have found that students do best when working through one problem at a time. Jordan, a seventh grader, put it this way: "When she goes off on everything I've done wrong, I tune out. No way I can do it all."
- **Give students feedback.** Observe and inform students about what's working and how to improve and adjust their application of a strategy. Your comments can be oral and/or jotted on a Post-it. What you say celebrates students' progress, calls attention to their use of strategies, and tells them, "Aha, this is the way to do it!"

Here are some of the prompts I use:

- I liked the way you figured out a word and used...
- I'm pleased that you studied dialogue and inner thoughts to infer...
- I noticed how rereading helped you...
- Your retelling of that passage showed that you...
- You understand how to use chapter headings to...
- Your summary showed you could select key details because...
- I noticed that the questions you ask help you...
- I'm pleased that you made connections to...

3. Model the process, using strategies, skills, and techniques that the student owns.

Students observe and listen.

4. Explain how the strategies support the learning and help students complete the task.

5. Work with students and observe them; guide them as they practice applying the strategy to similar learning tasks, i.e., taking notes, summarizing, solving word problems, long



RECAPPING THE BENEFITS

Your support can improve a student's:

- ◆ behavior
- ◆ class participation
- ◆ ability to read to learn new information
- ◆ study habits
- ◆ motivation to work hard
- ◆ confidence and self-esteem.

division, self-monitoring, answering questions, and so on.

6. Gradually release more and more of the responsibility for completing the task to the student. This might be completed in 3 or 4 meetings or over 3 to 4 weeks. Respond to the struggling readers' needs and give them the time they require to gain independence.

7. Invite students to complete the task independently, apply the strategy, solve the problem. The amount of time a student needs to move to independence varies with the task and the student's developmental level.

On pages 232–242, you'll discover how teachers adapt these seven steps as they help students learn in their ZPD. However, before we can help students, it's essential to learn how to identify which students need our expertise and guidance.

Identify Students Who Need Scaffolding—and Do It as Early as Possible

Most math, science, and social studies teachers in grades 6, 7, and 8 do not devote chunks of time at the start of the year to learning their students' strengths and needs. "After the first unit test, I pretty much know who can cut the work and who needs help," a seventh-grade science teacher once told me. But often four to six weeks have passed before that test—time that could have been used to support students. Discover students' strengths and needs early on, even prior to the opening of school, and continue the process throughout the year. Try some of the following suggestions and make gaining insights into students' performance an ongoing process.

Study standardized-test scores before classes start. Before the school year starts, make a list of students whose scores have dropped each year and a list of students whose scores are consistently low. Many of these students will probably benefit from scaffolding.

When Dick Bell, sixth-grade history teacher, and I review the standardized-test score patterns in reading and vocabulary of incoming students, we discover that seven students have been in the bottom quartile since fourth grade, fifteen are in the middle, and four are in the top quartile. During the first month of school, Dick focuses on gathering data about the seven poor performers and any others he feels require close monitoring.

I recognize that this can be a daunting task for teachers with 130 to 150 students, but even a brief review of test scores and prior year achievements will give you a better idea of what your students will need from you.

Dialogue with the reading and/or learning disabilities teachers. Seek their guidance when planning scaffolding lessons. Invite them to read samples of students' written work and offer some suggestions. Their input will be particularly helpful with students they might already have worked with in the past and can also assist you with students new to your school.

Dick chats with Mary Hofstra, who has tutored four of the seven students whose low scores caught his attention. She gives Dick copies of accommodations she and other Powhatan teachers developed. She also discusses Richard, a bright learning-disabled student who reads independently on a third-grade level. Mary will continue tutoring Richard at his instructional level. A high-school student will read textbooks to Richard, and Mary asks Dick to funnel reading assignments to the student. Having this information enables Dick to care for the needs of the four students who already attended Powhatan. Dick will now monitor the three new students to discover ways to support their learning.

Discuss students who struggle at team meetings. When you check on students' performance in all subjects, you might find that a student is great in math and science but weak in history and reading. Input from others can provide you with fresh ideas.

At a sixth-grade team meeting in Johnson Williams Middle School, the math teacher discussed his concerns about Jason. "He can do computation and do it well. But give Jason a word problem and most times he writes nothing on his paper. I don't think he can read the textbook." The reading/writing teacher confirmed this hunch because she

had just completed an Informal Reading Inventory on Jason and found his instructional level to be at beginning third grade. Here are some solutions the teachers brainstormed:

1. See if the reading teacher can work with Jason.
2. Pair all students and have them read the word problems to each other; the teacher will pair with Jason.
3. Try to get Jason into the before-school reading class that meets daily.

Administer a survey checklist. By the end of the second week of school, ask students to think about and indicate the strategies they use when reading a history, science, or math textbook. After students complete the checklist, ask them to explain, on the back, any adjustments they may have made in the list's wording, and why they do or do not read textbook assignments. A sample reproducible Content Area Reading Strategy Checklist is provided on page 229.

I have collected surveys from different middle schools. Students are generally honest and admit that they don't read their text but use it to study or look up answers. Every class has a group of students who read the words, so they can say they've read the pages, but don't understand or recall. A content area strategy survey can quickly spotlight students who require scaffolding that will enable them to learn. Here are some suggestions for probing deeper to discover more about students' use of strategies:

- Meet with students whose surveys indicate they lack strategies.
- Ask them to explain why they didn't check any of the statements.
- Ask students how they think you can help them.
- Observe students to collect more data.

The survey on page 230, completed by an eighth grader, illustrates students' honesty and underscores the need for teachers to scaffold instruction and teach strategies that support learning in history, science, and mathematics.

Content Area Reading Strategy Checklist

Name _____ Date _____

BEFORE READING

- _____ I preview the section or chapter by looking and thinking about the bold face headings and vocabulary.
- _____ I read the sentences around bold face words that are unfamiliar.
- _____ I read the captions, charts, and graphs.
- _____ I ask questions.
- _____ I develop a general idea about the content I will read.
- _____ I review the purposes that have been set before I start reading.

DURING READING

- _____ I know when I'm confused and reread to understand.
- _____ I continue asking questions and look for answers as I read.
- _____ I look for information that relates to the purpose I've set, or that the teacher or class has set.
- _____ I stop after each section and try to remember what I've read.
- _____ I try to use clues in the sentences, charts, pictures to figure out new words.
- _____ I take notes when the reading has lots of new information.
- _____ I jot down questions to ask the teacher, especially when I'm confused.

AFTER READING

- _____ I discuss ideas with a partner or group.
- _____ I note new vocabulary in my journal.
- _____ I use graphic organizers to note and organize information.
- _____ I skim to find parts that might answer a question and reread these.
- _____ I study my notes and skim the text after each assignment.

CONTENT AREA READING STRATEGY CHECKLIST

Name *Aracelis Hope Alexander* Date *June 5, 2001*

BEFORE READING

- I preview the section or chapter by looking and thinking about the bold face headings and vocabulary.
- I read the sentences around bold face words that are unfamiliar.
- I read the captions, charts, and graphs.
- I ^{write notes} ask questions about the material.
- I develop a good idea about the content I will read.
- I review the purposes that have been set before I start reading.

WHILE READING

- I know when I'm confused and tried to understand.
- I ^{write notes} continue asking questions and look for answers as I read.
- I look for information that relates to the purpose I've set or the teacher and class has set.
- I stop after each section and try to remember what I've read.
- I try to use clues in the sentences, charts, pictures to figure out new words.
- I take notes when the reading has lots of new information.
- I jot down questions to ask the teacher, especially when I'm confused.

AFTER READING

- I discuss ideas with a partner or group.
- I note new vocabulary in my journal.
- I use graphic organizers to note and organize information.
- I skim to find parts that might answer a question and reread these.
- I study my notes and skim the text after each assignment.

The only time I read the textbooks is when I am confused about my work, or when I need to understand something more clearly.

I like worksheets better than reading the textbook, because they are easier to transport, so I am more likely to do my homework. I also like worksheets because you can keep them to help you review for tests and future years.

An eighth grader comments on her strategy checklist.

**TEACHERS
SUPPORTING
ONE ANOTHER**

If content area teachers feel that there isn't enough time to give the survey to their classes, I sympathize with and honor those feelings. My solution is to have the reading/writing teacher administer the survey and share the results with the history, science, and math teachers. Then, all four can adjust instruction for students who need extra help in order to progress.

Scaffolding Is Powerful

Scaffolding instruction holds the potential of changing students' lives and diminishing the feeling that school and learning are frightening and frustrating. Sixth grader Mike summed it up this way in his evaluation of a before-school reading class: "When you put me in the extra class I hated coming early. I didn't think I could get better. Now [June] I am passing. I read better. I will come again next year."

Scaffolding Is Good Teaching

Sometimes scaffolding is simply the good teaching that you want to offer all students to ensure that they can learn new and unfamiliar material and topics. In the chart that follows, you'll find teaching tools to use with students who require extra help to experience success (Barr et al., 1990; Gillet and Temple, 2000; Graves and Graves, 1994).

Scaffolding Within the Three-Part Learning Framework

TO SUPPORT STUDENTS BEFORE LEARNING:

- Enlarge their background knowledge.
- Preteach new concepts and connect to what students already know.
- Preteach key vocabulary that students need in order to comprehend. Connect these words to students' prior knowledge and experience.
- Preview text to help students understand its structure.
- Connect the book or topic to students' lives.
- Pose questions to engage students with the text while creating the purpose of reading to discover answers.
- Be explicit about the strategies students will practice and employ.
- Cue students in on transition words such as *however*, *because*, *in contrast*, *for example*, to build their knowledge of inter-sentence relationships.
- Cue students in on words that signal information will be sequenced: *first*, *next*, *after that*, *finally*.
- Set clear purposes for reading.

TO SUPPORT STUDENTS DURING LEARNING:

- Continue to set clear purposes for each section/ chapter students read.
- Encourage students to reread.
- Model how to tune into what's understood and what's confusing, then access a fix-it strategy.
- Teach students how to make mental images because "in-the-head" pictures promote comprehension and recall.
- Pose questions and read on for answers.
- Figure out word meanings using context clues.
- Use text structure to determine main idea, essential and non-essential details.
- Read and retell one to two sentences. Slowly increase the amount of retelling to one paragraph, two or more paragraphs, and finally an entire section of the textbook.
- Read passages aloud to students. (This gives students information but does not improve their reading.)
- Tape record chapters and have students follow along in the text while they listen. (Again, this builds listening comprehension, but does not develop reading skill.)

TO SUPPORT STUDENTS AFTER LEARNING:

- Discuss to solidify recall of key details, concepts, and new words.
- Discuss the process used to complete the task.
- Skim and reread to locate key information and answer questions.
- Reteach a strategy students have practiced.
- Write about the reading by taking notes or summarizing.
- Demonstrate the benefits of graphic organizers and show students how to use them.
- Draw and label diagrams. These aid students in understanding and remembering complex information.

One-on-One Scaffolding in Action

To see how scaffolding works, step into Charlotte White's fourth-grade classroom and observe the process in action between teacher and student. Tim is experiencing difficulty answering questions in history. The class is studying the Westward Movement. While students work in pairs, looking up and answering "What Do I Want To Know?" questions (from the K-W-L; Ogle, 1986), Miss White takes ten to fifteen minutes to support Tim's learning. Although Miss White has the class answer questions from the textbook as a regular part of her instruction, Tim leaves answers blank instead of skimming to locate the information and rereading. Here's a summary of my notes documenting Miss White's efforts to guide and encourage Tim to try strategies that can help him answer all the questions.

First, Miss White thinks aloud to show Tim how she uses information in each question to skim the text and locate the page that answers the question.

MISS WHITE: *I'll read the first question to look for key words that might help me skim and locate. [Why did people move to the West?] I'll look for the words move and west as I skim. I'll look at bold face headings; these can help. [She skims two pages.] Here it is, under the heading "Reasons for Going West." Now I'll reread this part to get all the details.*

MISS WHITE (to Tim): *What did you notice?*

TIM: *You had to reread to get the answer.*

MISS WHITE: *How did I know what to reread?*

TIM: *You used words in the question. Headings, too.*

MISS WHITE: *Good listening and remembering, Tim. Now listen as I read the passage out loud. Here are the reasons: "to get rich, to have own land, for adventure, to escape punishment for a crime, etc." [She keeps her hand in the book to hold her place and closes it.]*

TIM: *Yeah, but you had to reread. You didn't remember.*

MISS WHITE: *I can't remember everything the first reading. Now I'll say, then write the answer in my own words without looking at the book. Saying things first helps me judge if I remembered enough. If not, I'll reread again.*

MISS WHITE: *People moved West for different reasons. Some to have their own land, some to escape being punished for a crime, some to get rich. Many people wanted an adventure. Then she writes as Tim watches.*

MISS WHITE: *[Miss White models one more question.] Tim, what do you notice about the way I look for answers to questions?*

TIM: *You reread, then say the stuff to see if you remember.*

MISS WHITE: *What have you been doing?*

TIM: *Leaving blanks if I don't remember after I read it.*

MISS WHITE: *What else did you notice?*

TIM: *Not much.*

MISS WHITE: *What did I do if I didn't remember the reasons?*

TIM: [reluctantly] *I guess you reread.*

MISS WHITE: *Good. Sometimes I have to reread two or three times.*

TIM: *It takes too long.*

MISS WHITE: *I understand that feeling. But the more you do it, the faster you'll get because you'll know how to skim, reread, then retell to yourself.*

TIM: *You write faster than I can. I spend time trying to remember.*

MISS WHITE: *It is easier to write when you know what you will say.*

The first time Miss White and Tim met, she modelled all three questions. The second time she modelled one, and then Tim completed one sitting beside her. Here's Tim's think-aloud for the question, "Why did many people travel west in groups?"

The words I'll look for are "travel" and "west." [Tim skims until he finds the page.] Here, under the part about the dangers of travelling westward. Now I have to reread it. Now I say it and don't look. They stayed together because it was dangerous to go alone because it was land not known and there were Indian attacks. Staying together was good too 'cause if a family ran out of food or a wagon broke or got stuck others helped. It gave them company and made them less scared.

MISS WHITE: *Tim, that was a top-notch job! You skimmed, reread, retold, and now writing will be a snap.*

On the next assignment, Miss White shifts the responsibility for answering all the questions to Tim, checking his work twice while she circulates around the room supporting others. "Good job, Tim, you've answered every question," she says. "Tomorrow, I want you to show Ricardo how you answer questions." Tim's grin is so wide it almost leaves his face. Not only does Miss White move Tim to another place, but she also honors Tim's careful listening. Her scaffolding has enabled Tim to overcome negative feelings about rereading and helped him apply strategies he understands but hasn't used. Then Miss White furthers her support by celebrating Tim's progress and designating him a peer helper.