

Better Learning

THROUGH
STRUCTURED
TEACHING

A Framework for the
Gradual Release of
Responsibility

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and Nancy Frey

Better Learning Through Structured Teaching

A Framework for the Gradual Release of Responsibility

by Douglas Fisher and Nancy Frey

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Chapter 1

Learning, or Not Learning, in School

Learning—the goal of schooling—is a complex process. But what is learning? It's a bit more complex than most people think. Consider the following definitions of learning and the implications each has for teaching:

- The process of acquiring knowledge or skill through study, experience, or teaching
- Experience that brings about a relatively permanent change in behavior
- A change in neural function as a consequence of experience
- The cognitive process of acquiring skills or knowledge
- An increase in the amount of response rules and concepts in the memory of an intelligent system

Which definition fits with your beliefs? How is it that you learn? Think of something that you do well. Take a minute to analyze this skill or behavior. How did you develop your prowess? How did you move from novice to expert?

We would argue that the things you do well were taught to you through a series of intentional actions. You probably did not develop high levels of skills from simply being told how to complete tasks. Instead, you likely had models, feedback, peer support, and lots of practice. Over time, you developed your expertise. You may even have learned more when you had to share that expertise with others. The model that explains this type of learning environment is called the *gradual release of responsibility*.

Gradual Release of Responsibility

The gradual release of responsibility model of instruction suggests that the cognitive load should shift slowly and purposefully from teacher-as-model, to joint responsibility, to independent practice and application by the learner (Pearson & Gallagher, 1983). The gradual release of responsibility model stipulates that the teacher moves from assuming "all the responsibility for performing a task ... to a situation in which the students assume all of the responsibility" (Duke & Pearson, 2002, p. 211). The gradual release may occur over a day, a week, a month, or a year. Graves and Fitzgerald (2003) note, "effective instruction often follows a progression in which teachers gradually do less of the work and students gradually assume increased responsibility for their learning. It is through this process of gradually assuming more and more responsibility for their learning that students become competent independent learners" (p. 98).

The gradual release of responsibility model is the intersection of several theories, including the following:

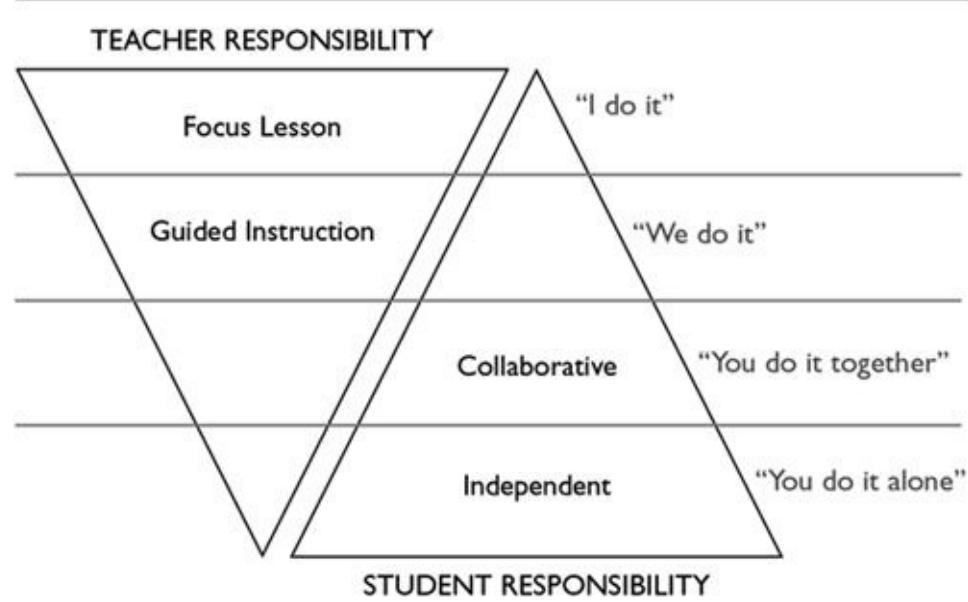
- Piaget's (1952) work on cognitive structures and schema
- Vygotsky's (1962, 1978) work on zones of proximal development

- Bandura's (1965) work on attention, retention, reproduction, and motivation
- Wood, Bruner, and Ross's (1976) work on scaffolded instruction

Taken together, these theories suggest that learning occurs through interactions with others, and when these interactions are intentional, specific learning occurs. Unfortunately, most current implementation efforts of the gradual release of responsibility model limit these interactions to adult and child exchanges. A common framework for implementing the model is *I do it; we do it; you do it*. In other words, many current models lack a vital component: learning through collaboration with peers.

The effectiveness of peer learning has been demonstrated with English language learners (Gersten & Baker, 2000), students with disabilities (Stevens & Slavin, 1995), and learners identified as gifted (Coleman & Gallagher, 1995). While the effectiveness of peer learning has been documented, it has typically been examined as a singular practice, isolated from the overall instructional design of the lesson. A more complete implementation model for the gradual release of responsibility moves from modeled to guided instruction, followed by collaborative learning, and finally independent experiences (see Figure 1.1).

Figure 1.1. A structure for successful instruction



The four instructional arrangements contained within Figure 1.1 include focus lessons, guided instruction, collaborative learning, and independent tasks. Each of these will be explored in greater detail in subsequent chapters. At this point, we will provide an overview of each of these such that we can then discuss situations in which students aren't learning.

Focus Lessons

In the gradual release of responsibility model, the focus lesson is the modeling phase. For a focus lesson to be effective, teachers must clearly establish a purpose and model their own thinking.

Consider, for example, the teacher who clearly communicates the purpose of the lesson as follows:

Our content goal today is to multiply and estimate products of fractions and mixed numerals. Our language goal for today is to use mathematical terminology while discussing problems and answers with your peers. Our social goal today is to improve our turn-taking skills by making sure that each member of the group has a chance to participate in the discussion.

As Dick, Carey, and Carey (2001, p. 25) remind us, an "instructional goal is (1) a clear, general statement of learner outcomes, (2) related to an identified problem and needs assessment, and (3) achievable through instruction." These are three important considerations for establishing purpose. As we will discuss further in the chapter on focus lessons, it's not enough to simply state the purpose. We must ensure that students have opportunities to engage with the purpose and obtain feedback about their performance.

In addition to establishing purpose, the focus lesson should provide students with information about the ways in which a skilled reader, writer, or thinker processes information. Most often, this is done through a think-aloud (see Kucan & Beck, 1997) in which the teacher models the type of thinking required to solve problems, understand directions, comprehend a text, or the like. For example, after reading aloud a passage about spiders to 3rd graders, a teacher might say:

Now I have even more questions. I wonder how spiders eat if they don't have mouth parts. I can't really visualize that, so I think I'll look for more information to answer my question. I do remember something very interesting. I didn't know that spiders are found all over the world. I think that the most interesting spider is the one that lives underwater in silken domes. Now that's something I need to know more about.

Focus lessons are almost always done with the whole class and typically last 15 minutes or less. The point is to clearly establish purpose and to ensure that students have a model from which to work.

Guided Instruction

Another phase of instruction occurs as teachers meet with needs-based groups. Guided instruction is almost always done with small, purposeful groups, which are composed based on student performance on formative assessments. A number of instructional strategies can be used during guided instruction that will be explored further in a subsequent chapter. The key to guided instruction lies in the planning. These are not random groups of students meeting with the teacher. Instead, these groups consist of students who share a common instructional need that the teacher can address.

Guided instruction is an ideal time to differentiate. As Tomlinson (2001) has noted, teachers can differentiate content, process, and product. Small-group instruction allows teachers to vary the instructional materials they use, the level of prompting or questioning they employ, and the products they expect. For example, a 7th grade science teacher identified a group of five students who did not perform well on the pre-assessment questions related to the impacts of asteroids. He met with this group of students and shared with them a short book from the school library called *Comets, Asteroids, and Meteorites* (Gallant, 2000). He asked students to each read specific pages related to asteroids and then to have a discussion with him about the potential impact that these bodies might have on Earth. During this 20-minute lesson, the teacher validated and extended his students' understanding that the history of life on Earth has been disrupted by major catastrophic events, including asteroids. At one point in their discussion, the teacher asked the group of students:

Consider what you know about the Earth's surface. Talk about that—is it all flat? [Students respond no.] What do you think are the things that made the surface of the Earth look like it does? The Earth has a history.

Of course, a single guided instructional event is not going to ensure that students suddenly develop the content knowledge or skills they were lacking. However, a series of guided instructional events will do so. Over time, and with cues, prompts, and questions, teachers can guide students to increasing complex thinking. Guided instruction is, in part, about establishing high expectations and providing the support for students to reach those expectations.

Collaborative Learning

As we have noted, this phase of instruction is almost always neglected. If used, collaborative learning is often a special event and not an established instructional routine. The key to collaborative learning is the requirement for independent products from this group collaboration. This approach differs from many group-learning situations in which one product is produced. In those situations, teachers are often concerned that one student did all of the work while the others talked.

When collaborative learning is done right, our experience suggests that it is during this phase of instruction that students consolidate their thinking and understanding. Negotiating with peers, discussing ideas and information, or engaging in inquiry with others causes students to use what they learned during focus lessons and guided instruction. Importantly, collaborative learning is not the time to introduce new information to students. Rather, collaborative learning should be a time for students to apply information in novel situations or to engage in a spiral review of previous knowledge.

While meeting with small groups of students to facilitate their understanding of the historical importance of revolutions, a 10th grade social studies teacher has selected a number of readings that will allow students to compare and contrast the Glorious Revolution of England, the American Revolution, and the French Revolution. These students do so through reciprocal teaching (Oczkus, 2003; Palincsar & Brown, 1984) in which groups of four students read a piece of text in common and then discuss the text using predicting, questioning, summarizing, and clarifying. During the reciprocal teaching discussion, students take notes. At the end of the discussion, each student in this class is asked to summarize the reading individually. This individual accountability is key to the success of collaborative learning.

Listening in on one of the groups of students as they talk about their reading reveals the ways in which peers can support one another in the consolidation of information.

Jamal: I still don't get it. Those folks in England had a revolution because the king wanted the army to be Catholic, and he got his own friends in government. But I need help to clarify what they mean by the "Dispensing Power." It sounds all Harry Potter.

Antone: I feel you. But that's just the name for getting rid of rules you don't want.

LaSheika: That king, James number 2, used a power he had to suspend laws and other rules. Adding that to the things you said already made people very angry, and they started the revolution to get rid of him. It's just like the other revolutions we talked about.

These collaborative learning situations help students think through key ideas, are a natural opportunity for inquiry, and ensure that students engage in content learning. As such, they are critical to the successful implementation of the gradual release of responsibility model of instruction.

Independent Tasks

The ultimate goal of our instruction is that students can independently apply information, ideas, content, skills, and strategies in unique situations. Our goal is not to create learners who are dependent on another person for information and ideas. As such, students need practice in completing independent tasks. To facilitate independent learning, the school and instructional events must be "organized to encourage and support a continued, increasingly mature and comprehensive acceptance of responsibilities for one's own learning" (Kesten, 1987, p. 15). Unfortunately, too many students are asked to complete independent tasks in the absence of good instruction that ensures that they have the background knowledge to do so. While there are a range of independent tasks that ensure students can apply information, our experience suggests that the more authentic the task is, the more likely the student is to complete it.

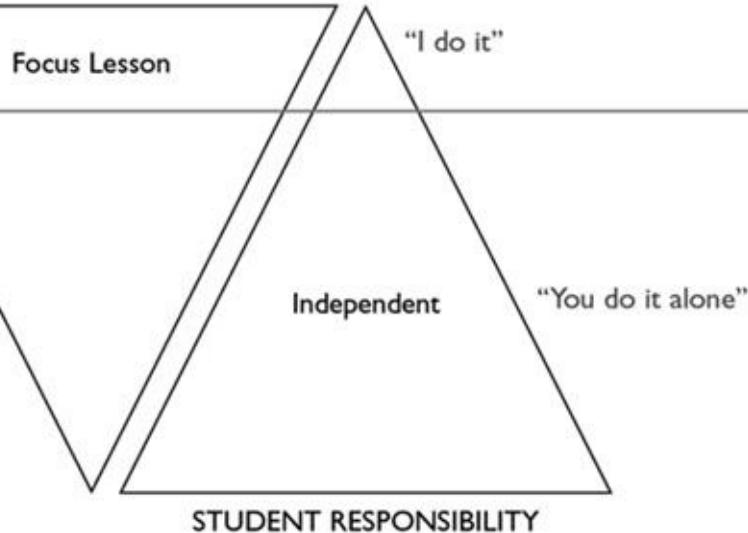
As with collaborative learning, students should not be asked to do unfamiliar tasks—tasks for which they have not had instruction—individually. Independent tasks should require individual application of information previously taught. These tasks should provide students with opportunities to use their knowledge to produce new products. For example, a kindergarten teacher might ask a student to read a familiar book to three adults, a 6th grade science teacher might ask a student to write a prediction of the outcome of a lab based on the previous three experiments, and a high school art teacher might ask a student to incorporate light and perspective into a new painting. These tasks are clearly related to the instruction each student received, yet each provides students an opportunity to apply that knowledge in a new way.

When Learning Isn't Occurring

Unfortunately, there are still classrooms in which responsibility is not being transferred from knowledgeable others (teachers, peers, parents) to students. These classrooms do not operate on an apprenticeship model in which scaffolding is used to ensure success. For example, in some classrooms, teachers provide modeling and then ask students to complete independent tasks. This approach is graphically represented in Figure 1.2.

Figure 1.2. In some classrooms ...

TEACHER RESPONSIBILITY

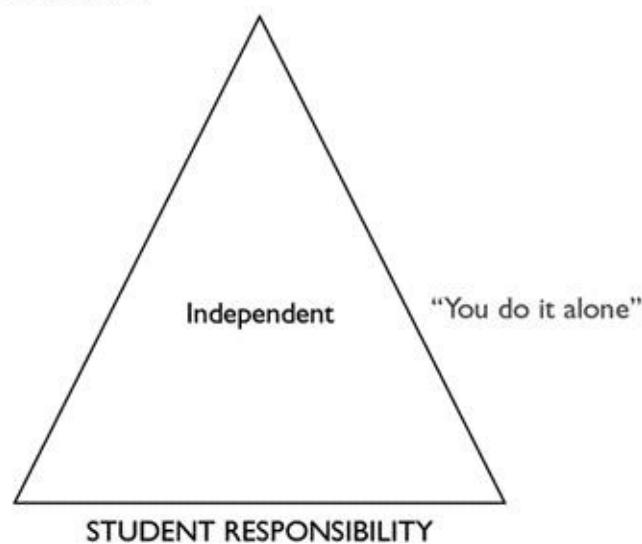


This instructional model is all too familiar. The teacher demonstrates how to solve algebra problems and then asks students to solve the odd-numbered problems in the back of the book. Or a teacher reads a text aloud and then asks students to complete a comprehension worksheet based on the reading. In both of these cases, the teacher fails to develop students' understanding of the content through purposeful interactions.

Sadly, there is a classroom model worse than this, at least in terms of instructional development. In some classrooms, students are asked to learn independently day after day. This approach is graphically represented in Figure 1.3.

Figure 1.3. In some classrooms ...

TEACHER RESPONSIBILITY

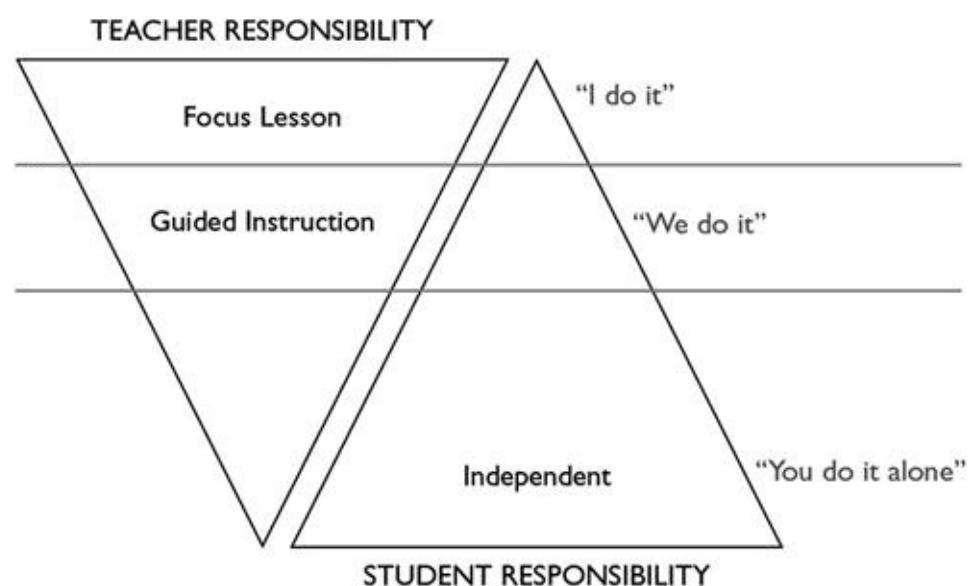


Some teachers assign pages from a textbook to be read and then require students to answer questions at the back of the book, over and over again. Other teachers spend hours at the photocopy machine creating packets for students to work on independently, hour after hour. There really isn't much teaching going on in these classrooms. It's mostly assigning or causing work. Frankly, we'd b

embarrassed to cash our paychecks if we taught like this. However, we want to be careful in the discussion about independent work. There are days at school where students need to spend significant amounts of time completing projects, writing essays, and the like. However, this type of work does not occur every day, and it is based on the instruction that occurs in focus lessons, guided instruction, and collaborative learning.

But even in classrooms that most people would consider "good" or "good enough," the gradual release of responsibility model is not fully operationalized. Commonly, the collaborative learning phase is missing. This approach is graphically represented in Figure 1.4.

Figure 1.4. And in some classrooms ...



In these classrooms, the teacher models and then meets with small groups of students. Unfortunately, students don't have an opportunity to collaborate, as they are all required to complete independent tasks while waiting their turn to meet with the teacher. For example, the teacher might model comprehension strategies useful in understanding scientific texts and then meet with two or three small groups of students to guide their understanding. While this happens, the rest of the students need to be in collaborative-learning groups. Unfortunately, they are more likely to be assigned independent reading from a textbook instead.

We believe that all four components are necessary for students to learn. Neglecting one or more of the stages in this progression will not result in deep learning, critical or creative thinking, or the ability to mobilize strategies as needed. Instead, we will have reinforced students who attempt to memorize facts for tests and not students who become independent, lifelong learners. But we didn't always understand this need to include all four components. Our teaching histories are replete with all of the examples described earlier.

When the Importance of Gradual Release Became Real for Us

The gradual release of responsibility model has been around for decades. We have used it in our preservice classes as well as in our teaching of public school students. But the day we fully understood

the importance of this model was January 16. We were in Las Vegas, Nevada, at a conference. We were staying at the Venetian hotel, a very nice place to stay. Doug had a cell phone on his hip, the old kind of cell phone that did one thing only—it made phone calls. It did not take pictures, send e-mail, or do anything else fancy.

While Doug was walking through the lobby, his phone rang. As he tried to answer it, it fell from his hip into the lagoon. Down the drain it went. Given that Doug couldn't imagine a weekend without a cell phone, we took a taxi to the local Sprint store to obtain a new phone. Doug wanted to exercise his insurance policy and get a free replacement phone.

The salesman saw it differently. He wanted to make a new sale, so he redirected Doug from the "old school" phones to ones that were high-tech. As the salesman said, "You need a phone that is more intuitive, one that has e-mail, an address book, a calendar program, and can search the Web." Doug assured him that no, he did not need any of these things. The salesman was very persistent and noted that the newer phones sent text messages. Doug had never sent a text message in his life, nor had the need ever arisen. But the salesman was skilled. He said, "You know, the young people all send text messages. It's the new way of communicating." Doug wants to be a young person, so out came his credit card, and he bought the new Treo 650. Doug was very proud of his new, high-tech purchase. The salesman took the phone out of the box and demonstrated all kinds of features.

About an hour later, back at the hotel, the phone rang. There it sat, buzzing away, but Doug did not know how to answer it. There wasn't anything to flip open, like the old phone, and there wasn't an obvious button that said "answer." Frustrated, we got back in the taxi and returned to the Sprint store.

Of course, Doug couldn't bear to tell the salesman that he couldn't work the phone. Instead, Doug handed the phone to him and said, "I think it's broken." The salesman—we'll call him Steve—immediately took the phone out of Doug's hands and started working the phone. Standing in the store, Doug suddenly felt very guilty and turned to Nancy and said, "How many times have I modeled comprehension for students only to take away the task and do it for them when they had difficulty?" Clearly this approach is a violation of the gradual release of responsibility model. What learners need when they experience difficulty is guided instruction, not more modeling. Frustrated learners already know that their teacher can complete the task; the teacher has demonstrated it several times. What the frustrated learner needs is guided practice, with the scaffolding there to ensure success.

Anyway, back to the store. Doug turned to Steve and said, "I really don't need another focus lesson; I need some guided instruction. Can I hold the phone while you talk me through the operation?" Steve was a little puzzled, but he complied. He guided, prompted, questioned, and cued Doug on how to use the phone. Nancy got so caught up in the experience that she decided, on the spot, to buy a new Treo 650 as well.

Of course the combination of the focus lesson and one guided instructional event did not ensure that we could use our new technology independently. What we needed was the opportunity to practice without the teacher (or, in this case, the salesman) providing cues. As Doug said to Nancy, "I'm too embarrassed to ask him how to do it again. We'll have to figure it out." Well, figure it out, slowly and over time, we did. That night, at dinner at the Capitol Grill, we sat across the table from each other sending text messages. We collaborated, problem solving as we went.

Over several weeks, with much practice and peer support, we both incorporated this new technology into our lives. In thinking about this experience, we realized that everything we each know how to do

well, we learned through this process of modeling, guided practice, collaborative learning, and independent application. We also realized that the things we don't do well were simply told to us without the opportunity to engage with scaffolds and supports for learning. On that day, the importance of the gradual release of responsibility model of instruction became real.

Conclusion

We have presented the gradual release of responsibility as an instructional model that ensures better student learning through structured teaching. This instructional model is intentional, purposeful, and explicit. However, we want to distinguish this approach from highly prescriptive teaching. Gradual Release of Responsibility is not a script that teachers follow. Instead, this model helps teachers increase precision in their teaching. As Fullan, Hill, and Crévola (2006) note, we don't need more prescriptive teaching, but rather more precision in our teaching. Precision teaching requires that teachers know their students and content well, that they regularly assess students' understanding of the content, and that they purposefully plan lessons that transfer responsibility from the teacher to the student. It is through this very purposeful classroom structure that learning occurs.

Chapter 2

Focus Lessons: Establishing Purpose and Modeling

The first phase of a gradual release of responsibility model is the focus lesson. This is the time when the teacher is demonstrating, modeling, and sharing his or her thinking with students. Although this segment may be brief (5–15 minutes), it is powerful. This is the time when the teacher uses the students' attention to introduce the concept, skill, or strategy they are to learn. This task is accomplished through one or more approaches designed to make the learning transparent to learners. The notion of transparency is critical to the focus lesson. In order for students to acquire new knowledge, they need to witness a more knowledgeable other (the teacher) using the strategy being demonstrated. Moreover, they need to be invited into the mind of that more knowledgeable other. This is accomplished by sharing one's thinking—making it transparent to students not only how it is done but how decisions are made in the successful completion of the task.

What Focus Lessons Are Not

Focus lessons are not intended as a time to ask students questions. During the focus lesson, the teacher should model his or her thinking and not interrogate students about their thinking. As such, the teacher should use a number of "I" statements, such as "I think ..." or "I wonder ..." or "I predict" The teacher should not turn the table during this phase of instruction and, after reading a passage aloud, ask students about their predictions, questions, inferences, or the like. Of course, the teacher can ask students to talk with a partner to practice the skill or strategy of the focus lesson following the teacher modeling. The important thing to remember is that students need modeling—examples—that they can incorporate into their habits.

Far too many students have been questioned about things they don't understand and have not been provided with the examples they need to be successful. As teachers, we commonly ask students questions for which we already have the answers. Students call this approach "Guess what's in the teacher's brain"; researchers call it initiate, respond, evaluate (I-R-E) (Cazden, 1988). A typical sequence of instruction, in the absence of teacher modeling, might go something like this:

Teacher: Why did Lewis and Clark want to explore the west? (Initiate)

Student 1: To discover California? (Respond)

Teacher: Well, not really. (Evaluate) What do others think? (Initiate)

Student 2: To get some gold? (Respond)

Teacher: No, not yet. (Evaluate) Before the Gold Rush, why did Lewis and Clark want to explore? (Initiate)

Clearly, the students do not know the answer that the teacher is looking for. Using a gradual release of responsibility model, the teacher would have first modeled his or her thinking, probably from a piece of text. Consider the difference when the teacher does so. In this case, the teacher reads aloud a portion of the letter President Thomas Jefferson wrote on June 20, 1803, to Meriwether Lewis:

The Object of your mission is to explore the Missouri river & such principal stream of it as its course and communication with the waters of the Pacific ocean, whether the Columbia, Oregon, Colorado or any other river may offer the most direct & practicable water communication across this continent for the purpose of commerce. (Lewis, Bergon, & Clark, 2003, p. xxiv)

During and after the reading of this passage, the teacher thinks aloud, sharing her understanding of the text. Along the way, she notes that the president of the United States is interested in a water route across the United States. She also notes that his purpose in forming the expedition is for commerce, conducting business. In doing so, she facilitates her students' thinking about not only the reasons for the expedition but also how to read for information.

Focus lessons are also not the time to simply tell students things. The key to a quality focus lesson is *explaining*. As we will discuss later in this chapter, students need an explanation of their teacher's cognitive and metacognitive processes. As we discussed in Chapter 1, people don't really learn from being told. Learners need scaffolds and supports to process information. This need has implications for every classroom. As teachers, we should continually ask ourselves whether we are explaining or telling.

This question has profound implications for lectures in middle and high school. A good lecture lets the participants in on the thinking and does not simply regurgitate information that could have been read. What students do not need is an "information dump" from teacher to student. A good lecture should model critical thinking for students as the "teacher questions her own assumptions, acknowledges ethical dilemmas hidden in her position, refers to inconvenient theories, facts, and philosophies that she has deliberately overlooked, and demonstrates an openness to alternative viewpoints" (Brookfield, 1995, p. 19). The worthwhile lecture, though brief in nature, should convey new terms and concepts and draw connections between ideas as the lecturer explains the thinking behind the information.

In addition, the focus lesson is not a time in which students read aloud to the rest of the class. Although there are instructional reasons for students reading aloud, such as choral reading or formative diagnostics, the focus lesson is not one of these times. As we like to say, the focus lesson is the time in which the person who is paid to be there reads or thinks aloud. Evidence indicates that asking students to read unfamiliar texts aloud to the whole class is harmful to the individual student and counterproductive for the rest of the class, as they are often hearing a disfluent reading (Opitz & Rasinski, 1998). The comedian Lily Tomlin still talks about an experience she had in 2nd grade. While reading aloud to the whole class, she mispronounced *island*. From that point on, she was teased at school and began to dislike not only school but also herself. It's pretty powerful when an experience from 2nd grade is still on your mind when you're in your 60s. What students need is for a fluent reader to read, explain, and share the thinking required of the text or the task (Duffy, 2003).

Key Features of Focus Lessons

Before we provide examples of strategies for developing and delivering focus lessons, let's explore two key features. First, all focus lessons should establish a purpose for the learning. Marzano, Pickering, and Pollock (2001) note that establishing purpose—setting objectives and providing feedback, as they call it—is one of the classroom instructional strategies that matters. Similarly, Hiebert and Flynn (2006) suggest that establishing purpose is critical to the success of English language learners.

learners. As they note, too many students don't know what to pay attention to or what really matters. As a result, students fail to learn the content they are exposed to.

Teachers establish purpose in a variety of ways. Unfortunately, in many districts, this good idea has been misapplied and minimized to a requirement for posting the standards on the wall. Simply posting standards on the wall is not establishing purpose with students. Students need to be involved in the process, to talk about the purpose, and to understand the goal of the instruction. Students need to be provided with clear explanations of the purpose and the activities that are linked with the purpose.

The types of purpose that are established also vary. As we noted in Chapter 1, teachers can establish purpose in three domains: content, language, and social. The example in Chapter 1 was from a mathematics classroom. Consider the following example from a science classroom. The teacher establishes purpose immediately following the writing prompt that students responded to upon entering the classroom. The prompt for this 4th grade classroom read, "When a little kid asks me about a food chain, I will explain it like this . . ." The teacher says:

As you know or could predict from our writing prompt, we're still focused on the food chain. Today, we're going to focus on the primary source of matter and energy in the food chain—plants. We need to learn more about plants as a source of matter and energy. In doing so, I want to be sure that we're paying attention to our key terms: producers, and consumers such as herbivores, carnivores, omnivores, and decomposers. I also want to make sure that we remember to write in complete sentences, not fragments. And, finally, our social goal for the week is to actively listen while others are speaking. To accomplish these things, I'll be reading and talking about plants with you, and then you'll be reading, talking, and writing. Some of you will be on computers doing Internet research; others will be reading more about decomposers such as fungi, insects, and microorganisms that recycle matter from dead plants and animals; and others will watch a short film about this.

Establishing the purpose is a critical component of the focus lesson. The other key feature is modeling thinking. As the example of the 4th grade teacher here suggests, one of the ways to meet the purpose is for the teacher to model his or her thinking for students. Again, modeling thinking should be brief and should result in students' incorporating strategies into their habits. As we noted in the previous section, the focus is on *explaining* and not telling. In the next section, we'll dive deeply into modeling.

Instructional Strategies for Effective Focus Lessons

The three methods used most often in the focus lesson phase are *modeling*, *metacognitive awareness*, and *think-alouds*. Although closely related, these three techniques serve different purposes. Modeling emphasizes cognition—that is, how a skill, task, or strategy is accomplished. Metacognition extends the cognition through monitoring the use of the content being learned. The final approach, think-alouds, combines cognition and metacognition as the teacher shares how he or she uses both to understand the content. Think-alouds showcase sophisticated levels of knowing because the procedure gives learners a window into the mind of an expert. Together these represent a gradual release of responsibility across a series of focus lessons.

Modeling

The focus lesson is first and foremost an opportunity to model a task or skill. However, as noted

before, modeling can easily devolve into telling rather than teaching. Modeling is different because follows a precise pattern:

1. *Name the strategy, skill, or task.* "Today I am going to show you how to combine sentences to make more interesting and complex statements."
2. *State the purpose of the strategy, skill, or task.* "It's important as a writer to be able to construct sentences that aren't repetitive or choppy. Sentence combining is one way to make sure your sentences read more smoothly."
3. *Explain when the strategy or skill is used.* "After I have written a passage, I reread it to see if I have choppy sentences or if I am repeating information unnecessarily. When I notice that has occurred, I look for ways to combine sentences."
4. *Use analogies to link prior knowledge to new learning.* "I like to think of this as making sure I'm making a straight path for my reader to follow. When I eliminate choppy or redundant sentences, it's like making a straight path of ideas for them to follow."
5. *Demonstrate how the skill, strategy, or task is completed.* "I'm going to show you three short examples of choppy sentences. Let's look first at information that we can cross out because it is repetitive. Then I'm going to combine those three sentences into one longer and more interesting sentence."
6. *Alert learners about errors to avoid.* "I have to be careful not to cut out too much information, so that I don't lose the meaning. I also need to watch out for sentences that become too long. If a reader can lose the meaning of a sentence that's too long."
7. *Access the use of the skill.* "Now I'm going to reread my new sentence to see if it makes sense."

When learners have a skill or strategy modeled, and not just merely told, they gain a deeper understanding for when to apply it, what to watch out for, and how to analyze their success. This is consistent with four dimensions of learning: declarative (*What is it?*), procedural (*How do I use it?*), conditional (*When and where do I use it?*), and reflective (*How do I know I used it correctly?*) (Angelo, 1991). You can also see elements of metacognition emerging in the modeling lesson. Students are not just being taught how to do something; they are being primed to analyze the success of their use of what they are learning.

Direct Explanation. This modeling technique requires the teacher to state explicitly what a process is and how it is to be used, including a model of how it looks or sounds (Duffy, Roehler, & Rackliff, 1986). This is accompanied by a clear sequence of instructions that feature consistent use of language and precise terminology. For example, in her geometry class, Ms. Nguyen established the purpose of the lesson, which centered on measuring exterior angles of triangles. She also explained her language goal (to incorporate vocabulary into discussions and proofs) and social goals (to collaborate with peers in a group project). Before asking students to work in groups and solve problems and proofs, she provided a direct explanation of her thinking. She read the definition of the theorem: "The measure of an exterior angle of a triangle is equal to the sum of the measures of the two nonadjacent interior angles." She then explained her understanding of the theorem:

I know that "sum" is to add up. It's the answer when we add something up. I also know that "nonadjacent" means "not next to." *Non* means "not," and *adjacent* means "next to or near." So

this theorem is saying to me that the measure of the exterior angle—this one [she points to a ~~exterior angle~~]—is equal to the sum of the two that are not directly next to the exterior angle I'm trying to figure out. I also know that some people call the nonadjacent angles remote interior angles, but that doesn't really help me here.

She then looks at a problem: "In ΔPQR , $m\angle Q = 45^\circ$, and $m\angle R = 72^\circ$. Find the measure of an exterior angle at P ." Again, she shares her thinking through direct explanation.

Okay, so I know that one angle is 45° and the other one is 72° . Wait, I don't have to do this in my head. It is always helpful to draw a diagram and label it with the given information. Let's see, I'll label the triangle like this and see if it helps. Yes, it does. Now I can see which are nonadjacent angles and which I need to solve. Easy, now it's just a calculation problem. I'm ready for another.

She continues this way through two more examples and then moves into guided instruction, first with the whole class and then with small groups. While she does so, she provides students in the collaborative learning groups proofs to work on and reminds them to use the academic vocabulary they have learned in their discussions and on the proof pages.

Demonstration. Think of the times you have tuned in to a television show to watch a demonstration of a complicated process you were interested in learning. It may have been a show on making a soufflé, or redecorating a living room, or casting a fly fishing rod, but in all cases it was accompanied by the narration of an expert who explained what he or she was doing. The combination of verbal and visual elements reinforced the most salient features of the task.

Ms. Lattner has begun a watercolor painting unit in her middle school art class. Her students need learn how to stretch the paper correctly in order to have a satisfactory result with their final product. She begins by naming all the materials she will need for the task, including watercolor paper, art tape, clean water and two sponges, and a board for mounting the paper.

The first thing I need to do is check to make sure I have the side of the paper I want to use facing up. I can paint on either side, but I like to use the rougher side of the paper because it seems to hold my paint better. I can run my hand over both sides of the paper to figure out which side is rougher. The paper needs to soak in the water for a few minutes, so I am going to place it in the pan and set the timer for three minutes. That way I won't forget. I used tepid water, which means water that is around room temperature, in the pan. Hot water can ruin the paper. While it is soaking, I'll cut the strips of tape I'll need to mount the paper on the board. I have to make sure that the tape isn't shorter than the length of each side. If it is, the paper will dry funny, and I'll have a big bubble in it.

After the timer rings, Ms. Lattner continues.

I'm going to be careful as I lift the paper because I want as much water as possible to drain off. I can't put a soaking wet paper on the board, or it will take forever for it to dry.

She holds the paper above the pan to allow the excess water to drain.

I think that's as much water as I'm going to get off of the paper that way. I've been watching the amount of water dripping in the pan, and it has slowed down to almost nothing. I know I can get water off another way. I'm going to lay the paper down on the board and use this sponge to smooth it. I've checked the sponge to make sure it's clean, and now I'm going to smooth it using long strokes across the paper. The sponge absorbs water as it smooths. Now that the paper

smooth, I need to tape it down. This tape gets sticky on one side, but only after it gets wet. I use a brown sponge for wetting the tape, so that I never mix up my smoothing sponges with my taping ones. You know why? Because that sticky stuff from the tape gets on the sponge. If I accidentally use that sponge later for smoothing, I'll get it all over the paper, and it will be ruined.

The teacher places the tape on all four edges of the paper and affixes it to the wooden board.

Now it's done! It needs to dry overnight, and when I check it tomorrow, it will be very tight and smooth. As the paper dries, it contracts, which means it gets a bit smaller. The tape holds it in place, so the contraction of the paper stretches it tight. When I paint on it, the surface will be smooth, and it won't crinkle up as I apply the watercolors to it.

This demonstration included not only the sequence of steps but also insights into how decisions are made about when to go on to the next step. In addition, Ms. Lattner carefully noted the errors to avoid when completing this task.

Teaching for Metacognitive Awareness

A second aspect of a successful focus lesson is teaching for meta-cognitive awareness. This is defined as the learner's mindful acknowledgment of his or her own learning processes, the conditions under which he or she learns best, and a recognition that learning has occurred. Metacognitive awareness is truly a lifelong phenomenon and is therefore not taught in a handful of lessons. Instead, it is something that teachers must return to again and again. This is accomplished through focus lessons that provide students with time to recognize that learning has occurred and under what conditions. Therefore, focus lessons with a metacognitive component ask students to analyze how they are applying a strategy.

Anderson (2002) has developed a series of four questions that challenge learners to move from cognition to metacognition. We will expand on each of these questions. We post these questions on the board at the beginning of a focus lesson and write the answers as we move through the lesson.

1. "*What am I trying to accomplish?*" This first question moves the learners from merely copying a task to analyzing the outcomes. We've long heard the reminder to "begin with the end in mind" (Covey, 2004, p. 65). Therefore, we pose this question and answer it for our students. "This math word problem is asking me to figure out how many people can be served with the number of apple pies at the picnic."
2. "*What strategies am I using?*" After identifying the problem and the goal, the next step is to figure out what strategies can be used to achieve a solution. "I really need to use two strategies to find the answer. First, I have to multiply the number of slices by the total number of pies. That will give me the total number of servings. But then I also have to divide those servings among the people at the picnic."
3. "*How well am I using the strategies?*" Once again, monitoring plays an important role in the acquisition of new learning. The answer to this question shows students that control of a skill or strategy comes from pausing from time to time during the process to see whether it's working. "Before I divide, I need to check to see if what I've multiplied makes sense. Could it be that 8 apple pies could be cut into a total of 64 slices? I also want to check my math. Does 8 times

equal 64?"

4. "What else could I do?" The goal of this question is to teach students to think flexibly, rather than allow themselves to be bogged down in the rigid thinking that often comes with a new skill. It is common at this stage of learning for students to temporarily forget that they have learned other skills or strategies previously. Remind them that those familiar strategies have a role. "I'm still not sure I am doing this correctly. One way I can be sure is if I draw a diagram of the pies and the people. We've done that before when we've had tough word problems. I'm going to try that now."

Notice how the metacognitive awareness focus lesson differs from modeling and how it represents a gradual release of responsibility within this phase of instruction. In the metacognition focus lesson, the emphasis shifts to direct instruction on a framework for making decisions about the use of the skill or strategy. Students have already had a focus lesson or two on how to perform these operations. They are now ready to see how to examine ways to prepare and plan, select an approach, and monitor the execution of their plan (Anderson, 2002). The teacher has shifted away from the step-by-step instruction during the modeling phase; there is less attention on direct explanation and demonstration.

Public Problem Solving. Novices have difficulty bridging the "how" of new learning to the "where" and "when" of using the skill or strategy. Public problem solving is a demonstration of the metacognitive processes an expert engages in, as the teacher makes his or her thinking transparent to learners.

Ms. Dykstra's 1st grade students have been reading a passage in their social studies textbooks about representative and direct democracies. She knows this is a challenging concept for 7-year-olds and wants to use this opportunity to show how she untangles this confusion.

When I was reading that last section, I got those two ideas all jumbled up in my head. I thought I understood, but when I tried to restate it in my head, I realized I didn't have it yet. So I looked back in the book to help myself. The first thing I did was look for the bolded words. I remembered there were bolded words and that there was a definition in the same sentence. I reread that myself, and this time I did it as a whisper-read so I could hear myself.

She quietly reads the sentences aloud.

That helped, I think. I am going to check myself to be sure. I'll close my book and see if I can say it in my own words. "A direct democracy means everyone gets to vote. A representative democracy means people choose someone to do the voting for them." Now I'm going to check my answer with the book to see if I am right.

Ms. Dykstra shows her students throughout the day how she evaluates her own learning through monitoring and checking. She also reinforces strategies she has taught them previously by showing them when she applies them, such as rereading, finding bolded words, and reading aloud to herself when she runs into difficult text.

Think-alouds. Application is the end goal of a series of focus lessons, as focus lessons prepare learners for assuming more of the cognitive load needed in guided, collaborative, and independent learning. A think-aloud process provides the chance for the teacher to combine the cognitive skills introduced through modeling with the thinking skills introduced through the metacognitive awareness lessons. The key to an effective think-aloud is that the teacher is using the first person to describe how

he or she makes decisions, implements skills, activates problem-solving protocols, and evaluates whether success has been achieved. Importantly, this is a chance for students to witness how an expert merges declarative, procedural, conditional, and reflective knowledge in a fluent fashion. Fisher and Frey (2007b) describe five key considerations in crafting an effective think-aloud:

- *Keep the focus of the think-aloud tight and brief.* It is easy to get carried away with a think-aloud, allowing it to turn into a rambling monologue of every thought that wanders through your head. Choose a short piece of written text, a single math word problem, or one example of a process. It is better to deliver a short but effective think-aloud than one that serves only to confuse the learner with too many details.
- *Pay attention to your own thinking processes as you design your think-aloud.* This is really very difficult when you are an expert at something. Nathan and Petrosino (2003) state that "well-developed subject matter knowledge can lead people to assume that learning should follow the structure of the subject-matter domain rather than the learning needs and developmental profile of novices"—a phenomenon they call the "expert blind spot" (p. 906). In other words, when you've been very adept at something for a long time, it can be difficult to retrace your own learning footsteps to recall a time when this information was new to you. A successful think-aloud requires you to unpack your own thinking processes to understand how you arrive at understanding.
- *Find your authentic voice when you think aloud.* This approach requires lots of "I" statements, which can feel contrived when you first begin. As teachers, it seems more comfortable to tell our students, using lots of "you" statements. The problem with those statements is that our instructional style reverts to direct explanation, rather than making the thinking of an expert transparent. It is useful to find an informal style and to resist adopting an overly academic voice. Your students will find it more helpful to hear you say, "Wow—when I first looked at this diagram of the solar system, I thought right away about what it didn't have in the illustration, like the asteroid belt and the dwarf planets," rather than, "I analyzed the diagram for the visual information it contained and immediately noted the small solar system bodies it did not contain."
- *Think like the expert you are.* Keeping a think-aloud authentic doesn't mean you have to check your expertise at the door. As a content area expert, you have the ability to share unique insights with your students. Effective think-alouds give you the opportunity to think like a mathematician, a scientist, an artist, a historian, an athlete, or a literary critic in front of your students.
- *Name your cognitive and metacognitive processes.* Labeling is critical if students are to build their own metacognitive awareness. Tell them when you are using the associative property of multiplication or making a text-to-text connection for reading comprehension—these are cognitive approaches you are teaching your students to use. In addition, signal your metacognition as you problem solve ("That didn't work, so I have to try a different formula"), acquire new knowledge ("That's something I didn't know until I read this article"), and regulate your learning ("I know that I usually understand an editorial better when I know who's written it, so I always look at the writer's affiliation first").

Keep in mind that the goal of a think-aloud is to let novices in on how an expert synthesizes skills and habits of mind.

Shared Reading. Holdaway (1979) pioneered this instructional approach as a way to bring the positive effects of story reading at home into the primary classroom. It has evolved into a practice that allows teachers to model how they apply reading comprehension strategies to text. In the past decade it has become a staple of secondary content classrooms as teachers use the dense informational readings of the course to show students how they understand the content. A key feature of a shared reading is the students' access to the text. Most commonly, the reading is projected on an overhead projector or with a document camera so that students can follow along as the teacher reads. Many teachers like to give students their own paper copy of the reading as well. Notice who is bearing the cognitive load—it is the teacher who is doing the reading, while students follow along silently. The teacher pauses throughout the reading to think aloud about the information and to explain his or her own mental processes in understanding the text.

Tenth grade biology teacher Mr. Brownlee has been teaching a unit about human immune responses and his students have been struggling with understanding the role of phagocytes in fighting disease. He reads, "Phagocytes destroy any foreign body, including the debris and dead cells produced by injury. It overwhelms the injured areas and engulfs the foreign bodies through a process called phagocytosis." Mr. Brownlee knows this statement contains a number of concepts that are easily misunderstood, so he pauses to think aloud:

When I first learned about phagocytes, I couldn't really get my head around what they did. Then my biology professor told me that *phagocyte* means "a cell that eats." That helped me understand a bit more. A phagocyte doesn't eat like we do, but it swallows up the garbage that shouldn't be there. There's a word in that sentence that confirms my recollection of that idea. The word *engulf* means "to swallow something up, to surround it." Now I can connect that to one more idea in the sentence—phagocytosis. Anytime I see a word that ends in *-osis*, it's a signal to me that it is a process. So phagocytosis is the process used by a phagocyte, a cell that eats, to swallow up anything it thinks shouldn't belong there. I had to take that sentence apart to understand it, and I did it by analyzing the derivations of a science term, then confirming my understanding using other terms in the sentence.

Mr. Brownlee combines both cognition and metacognition to show his students how he understands this informational text as a biologist. He is also explicit in naming the strategies he activated so as not to leave it to chance whether his students would notice (or not).

Write-alouds. Another instructional approach we use often in our classrooms is writing aloud in front of students. It is said that writing is the most complex of the elements of literacy (reading, writing, speaking, listening, and viewing) because it is built upon all of the others. After all, writing represents ideas that are formulated through oral exchanges and listening to others as well as reading. The writer must command all of these processes with a measure of fluency in order to get it on the paper. In other words, writing aloud, which entails thinking aloud as one writes, is essential for improving writing among students.

The students in Ms. Ramachandran's 3rd grade classroom have been doing an author study of the works of Beverly Cleary. Groups of students have worked in literature circles (Daniels, 2001) that have collectively selected books by this prolific author. Students will select one of the titles and write a review for submission to the www.amazon.com Web site for others to see. Ms. Ramachandran knows that this complex task requires lots of instruction, and she has already done focus lessons on the elements of a good book review and the considerations for a good submission to the Web site, such as length and tone. She is now composing in front of her students, writing aloud as

she develops a review of *A Girl from Yamhill* (Cleary, 1996), the book she read as part of the author study.

My book was an autobiography of part of Beverly Cleary's life, and she wrote about her childhood and how she started writing her first book. It's going to be important to say that in my review, so that customers will know what it is about. Wait, I should write down some of these ideas so that I don't forget. That's brainstorming, when you make a list of ideas. I am going to write "autobiography" and "childhood" on my list. I am also going to add "writes her first book". [She writes a list on chart paper.]

After brainstorming and noting ideas on her list, Ms. Ramachandran begins to compose.

I'm going to start my review with a sentence about what the book is about, so that the customer will know just a bit about it. "*A Girl from Yamhill* is an autobiography by ..." — wait, I'm changing that — "written by Beverly Cleary about her childhood in Oregon."

As she speaks, the teacher writes the words on the chart paper.

I'm checking my brainstorming list to see if there is anything else I want to add. Yes, I wanted to put this in about how she wrote her first book. "The author also tells ..." — I have a better word than that — "describes the time when she wrote her very first book." Now I need to reread what I've written so far to see if it makes sense.

She reads her first two sentences aloud and continues writing.

I wrote, "*A Girl from Yamhill* is an autobiography written by Beverly Cleary about her childhood in Oregon. The author also describes the time when she wrote her very first book." I'm checking for capitalization and punctuation, and it looks like I've done everything correctly. Now I have to add some sentences about my opinion of this book, because that's the purpose of a book review. Then I'll finish with recommendations.

This teacher's write-aloud captures the dynamics of writing. Many novices falsely believe that writing is a continuous laying down of sentences, word by word. Writing aloud in front of her students lets them witness the thinking processes used by a writer, including the editing she engages in from near the beginning of her piece.

Formative Assessments in Focus Lessons

Every phase of instruction must be accompanied by a means of checking for understanding, beginning with the focus lesson. This is most commonly done through oral and written summaries. With young children, we usually have them "turn to a partner" to restate or summarize what they have just learned. We listen in to conversations and make notes on a transparency of what we have overheard. These notes are projected onto the screen, and we discuss the accuracy and completeness of the conversations ("Anthony and Tre: Our classroom is a direct democracy because everyone has a vote, but our student council is a representative democracy because we elect leaders to vote for us"). This is an excellent way to find out what they understood—and misunderstood—which provides direction for the next lesson.

Several social and language goals are achieved at the same time. Partner talk allows us to promote social relationships among students and is particularly useful for English language learners who ma-

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