Society prizes those who delve deeper into issues and problems that have vexed humankind. The ability to hang with a problem requires persistence and a certain amount of confidence in one’s ability to eventually arrive at a solution. We could list any number of geniuses here, but keep in mind that at one point they were children. What happened to them, in and out of the classroom, that might have contributed to their willingness and ability to go deeper?

Chances are very good that somewhere along the way, their imaginations were sparked. We’d like to think it was a teacher who had a hand in doing so—perhaps a teacher who saw something in students they could not see in themselves. That teacher likely constructed learning experiences that were relevant and interesting to the learner. We’re talking about not entertaining, but rather inspiring students to explore and begin to acquire information on their own. Of course, each of these geniuses had surface-level knowledge that he or she could use.

Two of us had a similar experience when we decided to enroll in a functional neuroimaging class at our university. We had attended an International Mind, Brain, and Education Society conference (www.imbes.org) and realized that we didn’t understand some of the sessions because of our lack of surface knowledge about the images the presenters were sharing. We were excited to learn more about them and found a class that fit our schedules.

The first night of the class was magical. The professor asked each of the 13 students (11 full-time doctoral students in psychology plus us) why we were taking the class and what we hoped to gain from it. Following each person’s introduction, the professor commented on the information shared and then made notes on the syllabus that was being projected on the screen in front of us. For example, when Nancy talked about her work with young children with autism, our professor added a note to the syllabus, deleting the note about cerebral palsy and changing it to autism. As he did so, he said, “There are all kinds of exceptionalities that we can study. I’ll provide you with a lot of examples electronically. I left cerebral palsy on here from last semester because a student in the class had CP. Given Nancy’s interest, I think we’ll focus a bit more on autism this semester instead.”
We left the first night of class highly motivated. We read the assigned readings, participated in online discussion boards, and talked with friends and family about our new academic pursuit. But it wasn’t just the first night that was magical. We were invited into the learning each time. Our professor had a learning target each night that we discussed as a class for several minutes. We got to talk about why we were learning this content and how it fit into the overall topic. For example, early in the class, he said that we would be comparing various neuroimaging techniques to assess their relative strengths and weaknesses. He also let us know that “by the end of the class, you will be able to identify which technique for neuroimaging would be appropriate to answer your research questions.” He then talked about his own research and the tools that he used, as well as why he used them. At the end of each class, he would present us with “takeaways,” some of which he had prepared in advance and others that emerged as we were engaged in the work. Suffice it to say that each and every lesson we had with him was interesting and relevant, and we never felt intimidated, even though we arguably worked harder in that course than any other we had ever taken. Most of all, our learning about neuroimaging has continued in the years since the course ended, in large part because he equipped us with the tools we needed to continue to deepen our understanding of the topic. We were capable of going deeper because we had acquired the prerequisite surface knowledge. However, it was the professor’s construction of the learning environment that ensured that we did so.

Moving From Surface to Deep

The concept of surface and deep learning dates back to researchers such as Marton and Säljö (1976) and Biggs (1999). Each has described these constructs as internal to the learner, but under the influence of the teacher and the context. Surface learners are described as relying on memorization and are concerned about failure; therefore, they are risk-averse. Deep learners, on the other hand, seek to interact with content and ideas, and actively link concepts and knowledge across content. But Lublin (2003) states:

One of the major concepts to emerge from this research was the idea that students can take different approaches to
learning. These approaches are not stable traits in individuals, although some students will tend towards taking a deep approach while others will tend towards taking a surface approach (Biggs, 1999). Rather, it is suggested that good teaching can influence students to take a deep approach, while poor teaching in the widest sense can pressure students to take a surface approach. Biggs defines good teaching as the encouragement of a deep approach to learning. (p. 3)

In other words, the classroom milieu can either encourage or discourage a learner from adopting a deep view of learning. A teacher who emphasizes (and assesses) surface learning will cultivate surface-level learners. On the other hand, teachers who encourage learners to plan, investigate, and elaborate on their learning will nurture deep learners. And the teacher who emphasizes a strategic mode will nurture students who learn when to be surface and when to be deep. Whatever you pay attention to is what your students will pay attention to. What you test is what your students will believe you value. As we described in the previous chapter, initial literacy learning is a necessary starting point as students begin to acquire and consolidate their surface-level knowledge. But if you turn too quickly to the next set o’ facts, without giving students sufficient time and tools to go deeper, they will quickly learn that surface learning is what you value, and in turn, surface learning is all that you will get.

It is at this point that the handwringing begins, and the talk of “covering the curriculum” and adhering to a pacing guide comes to the forefront. But if we truly stand behind the belief that teaching is about impacting learning, rather than stuffing heads with facts, then we need to reexamine how the curriculum we are working with is constructed. In nearly every case, there is a spiral to the curriculum, and an expectation that students by the end of the year will be able to do more, in more knowledgeable ways, than they could at the beginning of the year. And when students are equipped to deepen their learning, the pace of learning quickens. Think of it this way: it needs to start slow in order to go fast.
Therefore, this chapter is about equipping students with the tools they need to become deep learners. We focus on practices that have strong effect sizes—actions that ensure that students demonstrate at least a year’s worth of learning. The previous chapter focused on sound presentation of knowledge. This one shifts to methods for not simply facilitating, but activating students’ literacy learning. Deep learners are able to think metacognitively, take action, discuss ideas, and see errors as a necessary part of learning. Hattie and Yates (2014) described this as System 2 learning, in contrast to System 1, or surface, learning:

System 1 is fast and responds with immediacy; System 2 entails using time to “stop, look, listen, and focus” (Stanovich, 1999). More recently Daniel Kahneman (2011) wrote about the two systems he distinguished as “thinking slow” and “thinking fast.” Slow thinking is System 2, which requires deep, challenging and sometimes “hurting” thinking. Fast thinking is System 1, which rapidly calls on knowledge to be used in thinking slow. The more we make learning automatic (like learning the times tables) the easier it is for us to devote our cognitive resources to System 2 deeper tasks (such as using the times tables to problem solve). (p. 28)

The problem lies not with surface learning, per se, but rather with failing to move students into deeper literacy learning.

But how?

By equipping them with the tools and affording them the opportunity to do so. In this chapter, we will highlight some of the types of teaching that will help provide students with these tools:

- Concept mapping
- Discussion and questioning
- Metacognitive strategies, including feedback to the learner
- Reciprocal teaching
We will also profile close reading, an instructional routine designed to foster deep learning.

**Deep Acquisition and Deep Consolidation**

As with surface learning, deep learning is divided into two periods: deep acquisition and deep consolidation. While the intention of surface learning is to expose students to and embed knowledge, the goal of deep learning is to foster self-regulation and self-talk. These two behaviors are critical for anyone moving toward greater expertise. You might recall an athletic endeavor you undertook in your own life. Doug was a competitive swimmer, but didn’t turn into one overnight. His early swimming experiences were much like those of others. He took lessons as a child, learned different strokes, and so on. But the transition from recreational to competitive swimmer required more than simply extending the length of the lessons. He had to put the swimming skills he possessed to use in authentic ways by gaining experiences that showed him what he was capable of doing. A long swim in a crop irrigation canal showed him that he had the endurance, but the mild case of hypothermia and dehydration he contracted as a result taught him that what he knew wasn’t sufficient. He joined a swim team, worked with some talented coaches, and learned from his teammates. The self-regulation, strategic thinking, and self-talk he acquired in the process were useful when he had to rise before dawn to go to practice, or forego attending a party with friends because of a swim meet the next morning.

Like other complex skills, students need opportunities to acquire and consolidate the use of these, in similar fashion to the acquisition and consolidation of knowledge discussed in the previous chapter. In the case of deep acquiring, students are learning how to plan, organize, elaborate, and reflect. They further consolidate through self-talk and self-questioning, both of which are necessary to becoming increasingly aware of their own metacognition.

Literacy learning goes part and parcel with the goals of deepening learning. Students need to talk about and listen to the ideas of others, especially those ideas that challenge their own current thinking. Students
consolidate their conceptual understanding by writing. (We can't tell you how often we have figured out something through the act of writing.) They link concepts, values, beliefs, and ideas through the acts of reading and viewing—but only if their teachers expect this as an outcome.

Classroom discussion can just as easily devolve into the familiar Initiate-Respond-Evaluate (Cazden, 1988) model of interrogation. Doug calls it “Guess what’s in the teacher’s brain”:

**Teacher:** What is the atomic number of nitrogen?

**Student:** 8.

**Teacher:** Nope. Try again.

Likewise, reading can be reduced to answering the comprehension questions on a computer program, and writing can look much more like a summary of someone else’s ideas than an exploration of how the author’s thinking has influenced one’s own. We get what we ask for, and when we fail to ask for deep learning, it is unlikely to emerge on its own.

**Deep Acquisition of Literacy Learning Made Visible**

The pedagogical goal during the deep acquisition period is for students to assimilate knowledge, especially through integration with existing knowledge. This isn’t merely an additive process. It’s also subtractive, in the sense that new understanding may not jibe with previously held positions. The cognitive dissonance that results from being confronted by two contradictory ideas can be uncomfortable, and in that search for meaning, the learner has to make some decisions about how he or she will restore consistency. There’s a higher degree of self-regulation that needs to take place, as students need to wrestle with ideas and concepts.

“My job is to make you comfortable with being uncomfortable,” said ninth-grade English teacher Heather Anderson to her students at the beginning of the school year. “That’s why it is so important that we have
discussions about ideas, even those that you don’t agree with. I want you to grow in your ability to think critically, investigate claims, and use reasoning and logic to examine issues. I won’t tell you what to think, but I hope I show you where to look.” This is when errors should be not merely tolerated but welcomed; this is where getting into the pit of not knowing is fun and powerful.

Ms. Anderson is signaling her expectation that her students will deepen their own learning. She understands that knowledge doesn’t ultimately count for much of anything if it doesn’t spark inquiry and resolve problems. Wiggins (1989) calls them intellectual virtues:

- Knowing how to listen to someone who knows something you don’t know
- Perceiving which questions to ask to clarify an idea’s meaning or value
- Being open and respectful enough to imagine that a new and strange idea is worth paying attention to
- Being inclined to ask questions about pat statements hiding assumptions or confusions (p. 48)

A critical difference between experienced and expert teachers lies in their ability to move students from surface to deep learning. John and his colleagues compared the practices and artifacts of teachers who had earned National Board Certification (NBC) with those of teachers who had applied for, but did not receive, this designation (Smith, Baker, Hattie, & Bond, 2008). The assignments were telling: 74% of the NBC teachers’ work samples focused on deep learning, while only 29% of the non-NBC teachers’ work samples evidenced deep student learning. In other words, the experienced but nonexpert teachers devoted far more attention to surface learning at the expense of deep understanding. More recently, researchers at the Education Trust (2015) reported similar findings. They analyzed thousands of middle school literacy assignments over a two-week period in spring 2015, and compared them to the Common Core State Standards, known for their intention to deepen student learning. The literacy analysis framework used by the researchers was organized in four domains:
1. **Alignment with the Common Core** such that it is grade level, and is clearly articulated to students

2. **Centrality of text** such that students are required to interpret and critically respond to texts using evidence

3. **Cognitive challenge** such that students are required to think critically and engage in extended writing

4. **Motivation and engagement** such that relevance and student choice are featured, allowing students to link to their goals

Only 5% of the assignments fell into the high range, leading the researchers to describe most of the assignments as “window dressing the Common Core” (Education Trust, 2015, p. 8). They reported that only 38% were aligned to the correct grade level, only 16% required textual evidence, and 85% focused on recall and reproduction of knowledge, rather than analysis, justification, and critiques. Slightly more than half (51%) of the assignments were completed in 15 minutes or less, thus thwarting extended writing, and only 2% offered meaningful choice and relevance.

Of course, simply telling students that they will engage in inquiry, investigation, and problem solving isn’t sufficient if they don’t have the time and tools to do so. That’s why these researchers examined assignments, rather than teachers in the act of teaching, noting that assignments “reflect what teachers believe students can do independently as a result of their teaching” (Education Trust, 2015, p. 3). In order to assimilate knowledge during this deep acquisition period, students should be interacting with the curriculum and one another as they plan, organize, and elaborate on concepts. Much of this is fueled through concept mapping, discussions, and methods for conducting investigations. These are enacted through the literacies of reading, writing, speaking, and listening.

**Concept Mapping**

Concept maps and graphic organizers are visual representations of the relationships between and among ideas. Unfortunately, they are too
often reduced to the level of worksheets, with the goal being to fill them out correctly, rather than to see one’s thinking develop on paper or screen. It’s transformation, not replication, that’s key. Used well, concept maps and graphic organizers afford students the chance to take real ownership with texts and concepts, because they equip them with a tool for succinct summarization and visualization.

But key to using concept mapping well is to see it as an intermediate step to something else. In other words, what will students do with the graphic organizer once they’ve completed it? Most often, we use them to support extended writing and discussion of ideas. These are ultimately planning tools, and are frequently used during the prewriting process as students begin to outline their ideas and develop an organizational structure to follow (Flanagan & Bouck, 2015).

As with so many other instructional strategies outlined in this book, timing plays an important role. Moore and Readence (1984) reviewed studies on the use of graphic organizers, noting that those that were completed and presented to students in advance of a reading had a relatively small effect (0.08). However, those that were constructed by students after reading text were much higher (0.57), and students processed and rehearsed information differently. More recently, Swanson et al. (2014) found that the use of graphic organizers with students with learning disabilities positively impacted their comprehension of social studies texts. Their meta-analysis examined several literacy instructional practices, advising that “educators should embrace instructional practices and materials that support the facilitation of activating what was already learned” (p. 179; emphasis added). In other words, the greater effect was found in aiding students to deepen their knowledge, rather than in acquiring initial knowledge.

The use of concept maps has a high effect size, but as always, it’s the story behind the numbers that really matters. Concept mapping is effective when it is used as a planning tool for something else. If its use is limited to filling it out and then setting it aside, it is no longer effective. The power of a concept map comes from the cognitive work it prompts as
students lay out a schema of what they know. Their planning—for writing, research, investigation, or presentation—is what makes it so useful.

Dahlia Negroponte uses word concept maps with her students to focus them on the terms that are most vital for them to know. Her class was reading *The Giver* (Lowry, 1993), a novel about a young boy growing up in a society where crime and fear have been eliminated. Ms. Negroponte knows that the concept of utopia is central to the novel’s message, and one that is not easily understood by her sixth graders. She initially introduced the term to them at the introduction, and asked them to return to it periodically as they read and discussed the novel over a two-week period.

“They first learned the denotative meaning of the word, which is the start,” she said. “I wanted them to gain a deeper understanding of the complexities of a utopian society as they followed Jonas’s struggle to fit in.”

The word concept maps provide her with a way to measure her impact, and she used Emir’s as an example (see Figure 3.1 on the next page).

“I watched the evolution of his thinking as he read, wrote, and discussed the novel. His initial thinking is the definition. He wrote, ‘It’s a place where everything is perfect,’ and as an example ‘It’s the place where Jonas lives.’ But look at the evolution of his understanding over the first week.” She pointed to his notes that moved from comparing utopia to a diamond, to likening it to a “room where if you move something, it’s wrecked.” Ms. Negroponte said, “Emir is beginning to see, like the character in the novel, that utopia can’t be sustained, and he says that ‘no place can be perfect forever.’ That’s a lot of wisdom coming from an 11-year-old.”

Ms. Negroponte noted that the concept map was used again in an essay the students wrote about utopia after they had finished the novel. “They used their annotated notes and concept maps like these to write about whether a utopian society was desirable, and at what cost.”

While this was only one of several concept maps students developed during the unit, she noted that their deepening understanding of the
What is it? What is it like? Utopia

It’s a place where everything is perfect.

Utopia is like a perfect diamond that is beautiful to look at in every direction.

It is imaginary, because no place can be perfect forever.

Utopia is like the best dream you ever had and everyone is very happy.

It is heaven.

Utopia is like a very neat room where everything is in place, but if you move something, it’s wrecked.

What are some examples?

It is the place where Jonas lives.
Discussion and Questioning

We’ve chosen to place discussion and questioning in the same section because we believe that effective teacher and student questioning fosters quality talk in the classroom. This is different from the Initiate-Respond-Evaluate method of recitation and interrogation, where the teacher asks the questions, evaluates the response given by the student, and then asks another question (Cazden, 1988). The IRE pattern encourages recitation of the text, but fails to deepen student thinking beyond the surface. Although there is widespread agreement that discussion is vital to comprehension and critical thinking, the implementation is less than robust. Nystrand’s (2006) observations of middle and high school English classes found that the average length of whole class discussions varied from 14 to 52 seconds per period—hardly enough time for anyone to deepen his or her knowledge.

The evidence suggests that the students who benefit most from classroom discussion are those who are struggling to comprehend text, although why is not clear. Could it be that discussion allows for students to co-construct knowledge, in that the ideas introduced by one member spark understanding in another? Are classroom discussions effective because they heighten the level of student engagement with the text? Is it the value in noticing that other people think differently than we do (Wilkinson & Nelson, 2013)? We think about the professional and personal book clubs we’ve been involved in over the years. In every case, each of these dynamics was present at one time or another.

But just because students are talking more doesn’t mean that it automatically results in deeper learning. There are some quality indicators related to solid discussion (Fisher & Frey, 2014). Students need to know the rules of discussion, both in small groups and as a whole class, as well as procedures for doing both. One of the expectations for students in Grades 3–5 is that they learn how to yield and gain the floor. But to do so means that the teacher needs to redefine his or her role in the discussion. By this age, children have learned that they need to raise their hand and be called on before speaking. Yet this can result in stilted conversation, and the teacher becomes the air-traffic controller. There
are certainly times when this is necessary, but we argue that true discussion occurs when students get to talk to one another without the teacher always being the intermediary.

Fourth-grade teacher Paula Taber changes the environment when extended whole class discussion occurs. The class has been reading *The One and Only Ivan* (Applegate, 2011), and the students are meeting to discuss a chapter of the novel they have just finished. She asks them to slide their chairs to the outer perimeter of the room so they can see one another, and she takes a seat as well. Ms. Taber poses discussion questions meant to provoke thought, and keeps a clipboard with her to track students’ responses. She reminds them that each of them has up to five opportunities to contribute, but no more than that.

“One of our classroom norms is to share the air,” she said, “so that we don’t have a handful of people dominating the conversation. And remember, you can ask questions as well.”

With text in hand, she asks her students open-ended questions, occasionally redirecting their attention to one another, not her. “Don’t look at me for an answer. The answer’s going to be right here in the room,” she tells them. As the discussion continues, she asks a student who has already spoken several times, “Amal, you’ve spoken four times, but you only have one more opportunity. Do you want to use it now or save it?”

Students often opt to reserve their last comment in case they have more to say later. Ms. Taber also invites those who have not participated. “Jocelyn, we’ve only heard from you once so far, and we need your thoughts, too. How do you respond to Nathan’s suggestion about the television set in Ivan’s cage?”

Small group discussion is also essential as students delve more deeply into the texts they are reading. These discussions are not directed by the teacher, but instead are regulated by the students themselves. Usefulness discussion should allow students to engage in argumentation as they justify their positions and listen to the reasoning of others (Almasi, 1994). We call it “disagreeing but not being disagreeable.”
The students in Maria Tejeda’s third-grade class used their argumentation skills as they discussed life cycles. One group was disagreeing about the differences between unique aspects of an organism’s life cycle and aspects that all organisms have in common. They used their argumentation skills to discuss their ideas:

**Sumaya:** I think that they all have to be born. That’s one thing that all of them have. Can we put that here? [pointing to the graphic organizer section focused on common aspects of life cycles]

**Oscar:** I agree with you because every one that we studied so far has been born alive.

**Jason:** I agree with you, too. I also think that they all have babies.

**Oscar:** I disagree with you ‘cause I don’t think that the bean seed has babies. Look at the pictures of the life cycle. There’s no babies.

**Sumaya:** I agree with Jason because the plant can reproduce. It says right here [reading from their text]. But I don’t think it means that they have babies.

**Jason:** You’re right. I mean that they all reproduce. That’s what I mean. That’s the right word, not that they have babies.

Discussion is further strengthened when learners know how to mark the conversation, using statements that promote cohesion of ideas. These conversation markers include the following (Michaels, O’Connor, Hall, & Resnick, 2010):

- “Can you tell us more about that?”
- “Can you show me where you found that information?”
- “I agree with _____ because ______.”
- “That’s a great point.”
- “I want to add on to what _____ just said.”

Fifth-grade teacher Hector Ortiz provides students with table tents with each of the conversational markers listed and defined. Students
practice these moves as a whole class and know that they are expected to use these markers when they work collaboratively. For example, in their book club conversations about Petey (Mikaelsen, 1998), the students integrate the moves.

David: Did everyone hear that? Sarah was reminding us about the doctor calling him an idiot.

Sarah: Where can we find that quote? I know we marked it in the text because we talked about it a lot. It was in the beginning of the book.

Jeffrey: I found it. It’s on page 5. And then it says, “The child has no capacity whatsoever for even minimal sensory appreciation,” and I wrote a note that says that he wouldn’t understand anything from his eyes, ears, nose, or touch. Can anyone talk more about it?

Anna: Yeah, I remember that we talked with Mr. Ortiz about that. It seems so wrong that the doctors told Petey’s mom that he was feebleminded, that he would never learn anything. But how does that connect with where we are now?

Sarah: I was just saying that we’re seeing Petey has intelligence and that he’s making decisions. The doctor was wrong, telling his parents that he couldn’t do anything.

Their conversation continued with members of the group providing support for their peers and the discussion they had. As Mr. Ortiz noted, “Before I taught my students about accountable talk, their group conversations were limited and mostly focused on literal levels of thinking. Now, they know how to interrogate ideas without hurting feelings. It builds their relationships and the trust in our classroom.”

Teacher questioning frames these whole class and small group discussions. The questions asked can limit thinking, as is the case when teachers ask narrow questions with only one response. On the other hand, teachers can invite further speculation by changing the nature of the question to prompt more discussion. The first are funneling questions, in that they intentionally send students down a cognitive path with a
known end point. Funneling questions have their place, especially in the surface acquisition period. But deepening understanding through discussion requires a focusing question approach (Wood, 1998). Consider the likely responses that would follow the funneling examples, and compare your predictions to those that focus student thinking:

- **Funneling**: What was the setting of the story?
- **Focusing**: How did the setting influence the story?
- **Funneling**: What is the meaning of the word confusing?
- **Focusing**: Why do you believe the author chose the word confusing in this passage?

When students are initially grappling with a complex piece of text, the questions teachers pose are frequently funneling questions. That’s because students need a solid foundation of literal-level understanding about what’s happening in the text. But after this initial phase of questioning, we want to deepen students’ understanding through the type of focusing questions that get them to notice the structural and inferential dimensions of the reading. We describe four phases of text-dependent questions (Fisher, Frey, Anderson, & Thayre, 2015):

- What does the text say? (Literal)
- How does the text work? (Structural)
- What does the text mean? (Inferential)
- What does the text inspire you to do? (Interpretive)

These questioning phases are designed to systematically deepen a learner’s understanding of a text, and discussion lies at the heart of close reading. We'll say more about the details of close reading later in this chapter, but for the moment we’ll attend to the role of text-dependent questions that focus, rather than funnel.

Marcus Brown used this questioning pattern when he engaged in close reading and discussion with his seventh-grade students about “The Tell-Tale Heart” (Poe, 1843). After spending time at the literal level to
ensure that his students were grounded in the foundations of the text, he turned his attention to the second phase—how does the text work?

To do so, Mr. Brown selected questions about the vocabulary in the text, and how it affected the meaning, asking, “What words and phrases does Poe repeat, and how does it affect the tone?”

He turned the students’ attention to the author’s craft, asking about how the punctuation used by Poe increases the anxiety felt by the reader. Each of these questions was marked by several minutes of extended debate and discussion as students began to notice things they had missed in earlier readings.

Later in the same lesson, Mr. Brown transitioned to the third phase of text-dependent questioning, “What does the text mean?” Here, he asked them about imagery, and the students drew back on their earlier observation that a watch was mentioned several times.

“All that ticking! It’s like a heartbeat!” said D’Andre.

“Can a watch symbolize anything else?” asked Mr. Brown.

Now Elvira added, “Like time, of course. But you mean more, right, Mr. Brown?”

The teacher nodded and said, “It sounds to me like you’re on the verge of something, Elvira. I want to give you a moment, because I’d like to hear more.”

After a few moments, her eyes widened. “Like, I kept thinking about watch as a noun. But it can be a verb. Like he’s being watched. And that’s why he’s so freaked out!”

Now Franco was intrigued. “Elvira, do you mean someone was really watching him? Because I didn’t see that.”

“Elvira, say more,” Mr. Brown said, and she added, “No, he wasn’t really being watched. But you know that creepy feeling when you feel like someone’s watching you? That’s what I mean.”
D’Andre added almost simultaneously, “You feel that way when you’re doing something you’re not supposed to, and you might get caught. Like all jumpy and everything.”

Mr. Brown smiled at this exchange because it was evidence that the discussion was leading to a deeper sense of meaning. “I’m pleased about where this is going. D’Andre, you made an important point about the narrator’s mental state. So my next question is this: This story was written more than 170 years ago. What can you infer about the attitude toward mental illness at the time this was written, and what’s your evidence?”

Close Reading

The practice of close reading, an instructional technique for inspecting a brief passage of text to determine its inferential meaning, is not a new one. Its history dates back to the 1920s, when New Criticism was on the rise as a means for interpreting texts at the word and sentence levels, as well as the entire passage (Richards, 1929). Close reading for many decades was the domain of college professors and advanced high school English teachers, and the works analyzed were primarily literary texts and poems. What is new about close reading is the application of many of these ideas in elementary and middle school classrooms (Fisher & Frey, 2012, 2014). This instructional routine combines several of the strategies profiled in this book:

- Students engage in repeated reading of a short passage to build fluency and deepen understanding.
- Students annotate text to mark their thinking.
- The teacher guides discussion and analysis through questioning.
- Students engage in extended discussion and analysis with their teacher.

Close reading varies according to developmental factors related to reading. Emergent and beginning readers in the primary grades are read to, rather than reading independently. This is because the texts
used during close reading are aligned more closely to their listening comprehension, rather than their ability to decode. The gap between children’s listening and reading comprehension is substantial, and doesn’t close until the end of middle school (Stricht & James, 1984). Close reading in primary is a time when the unconstrained skills of vocabulary and comprehension are foregrounded, and decoding instruction takes a backseat.

As students move to Grade 3 and beyond, they assume responsibility of performing the initial reading on their own. Many have worried that this will place struggling readers in harm’s way, but keep in mind that in close reading students are reading and discussing the text many times. It’s a form of slow reading, where the end game is not about volume, but rather about depth of understanding. The teacher pauses frequently to ask text-dependent questions that cause readers to look back into the text (and thus reread). These are focusing rather than funneling questions, and move from literal to structural and inferential levels of analysis. Because close reading is cognitively demanding, lessons are often extended over two or three sessions.

In the previous section, we profiled a portion of a middle school English teacher’s close reading, but we didn’t say anything about the fourth level: what does the text inspire you to do?

Kindergarten teacher Josué Paredes used the text The Day the Crayons Quit (Daywalt, 2013). For those of you who haven’t yet had the pleasure of reading this, the story concerns a group of crayons who feel they have been treated unfairly and decide to go on strike. Each has written a letter to Duncan, the young boy who owns them. For example, purple crayon doesn’t like the fact that Duncan uses him carelessly and colors outside the lines, and peach crayon won’t come out of the box because Duncan has peeled off his wrapper. When it came time for Mr. Paredes’s students to move into this fourth phase, the majority of students chose to write about the book. But others selected different routes. Several children wanted to find out if the author wrote any other books, and visited his home page (with help from the teacher). Two boys were intrigued about the dispute yellow crayon
and orange crayon got into regarding which was the proper color of the sun. The boys searched Google Images and saved images to sort into either orange or yellow. And one enterprising student chose to write her own set of letters, this time from her shoes. In her letters, some never got worn, others had to work on holidays, and a pair of flip-flops didn’t like getting wet all the time.

Our point in telling you about this is this: students need teachers who give them the time, opportunities, and tools to deepen their knowledge. Mr. Paredes understands that if students are going to deepen their knowledge, he needs to plan for it. Many of these events involve investigation, writing, and performance. As they move into deep consolidation, they benefit from approaches that foster metacognition, self-talk, and the ability to examine texts outside the direct guidance of the teacher.

Deep Consolidation of Literacy Learning Made Visible

As students deepen their knowledge, they also need the time and tools to consolidate their deep learning. In this period, students are conducting investigations, reading additional materials, and working with peers to make sense of complex texts. They depend on metacognitive thinking and self-regulation as they progress toward this increasingly self-directed learning. Metacognition is the ability to think about and reflect on one’s learning (Flavell, 1979). This is where students are taught to be strategic in their planning, thinking, and learning. The process is both a learned one, as students build the habit of reflective thinking, and a developmental one, as they progress toward more abstract thinking. A comparison of the discussions held with a child and an adolescent certainly makes this apparent. Although a youngster has fewer tools (language, cognition) to explain her motives behind a transgression, a teen is going to be able to do so, even if she’s not going to tell you. The ability to think more metacognitively begins around age 3 and develops into adulthood (Kuhn, 2000), and is further enhanced through strategies that build habits of reflection, and by feedback that illuminates when strategies work and when they do not.
The conversations and discussions adults have with children can foster or inhibit thinking. For example, asking students, “What are you learning?” rather than “What are you doing?” gets them to attend to the purpose of the task at hand, rather than the activity itself. Asking students to “tell me what you understand so far” builds the expectation that they should be monitoring their learning. This last one is of particular value at the deep consolidation phase as it sets up the kind of student questioning you need to assess your own impact and make further instructional decisions. It’s almost impossible to ask a question about something you know nothing about; that isn’t the case with students in this learning period. They know quite a bit, and can craft their next questions to you based on what they currently understand. Even more so, students should pose questions for themselves. Self-questioning plays an important role in monitoring one’s reading comprehension (e.g., Johnson & Keier, 2011). A reader who monitors her comprehension of the text is also going to recognize when she has lost the thread of meaning.

In the next section, we will discuss the value of comprehension strategy instruction to foster metacognition, self-questioning, and self-regulation. Students moving into deep consolidation are increasingly driving their own learning, and these thinking practices keep them moving forward. We don’t mean to suggest that students are working independently, with little guidance from the teacher. Literacy practices that foster such application include reciprocal teaching because it requires students to mobilize specific behaviors while engaging with complex texts as well as their peers. All the while, the teacher is providing feedback that models the kind of self-talk we want our students to be able to furnish for themselves. The deeper learning phase is a critical time for students to apply these approaches to their learning.

**Metacognitive Strategies**

Metacognitive awareness is vital to the learning process, and specifically to reading and writing. Palincsar (2013) describes metacognitive awareness as consisting of three parts:
1. Knowledge about our learning selves
2. An understanding of what the task demands and necessary strategies to complete them
3. The means to monitor learning and self-regulate

In other words, it describes our ability to observe our own thinking. But students need guidance in how to become more metacognitively aware. A collection of approaches, outlined in the pages that follow, is designed to teach students how to plan tasks, monitor comprehension, and evaluate their progress.

**Self-Questioning**

As a person reads or views something, he or she is monitoring comprehension. This is not a fully conscious realization, but rather one that runs just under the narrative he or she is taking in. We’ll use a detective story as an example, because it is one so many are familiar with. As you are reading or viewing the story, you are tracking the plot, analyzing characters, noticing when the setting changes, and querying the spoken and hidden motives of all of the characters. At the same time, you are on alert for clues that might appear that will allow you to solve the crime. If something occurs to disrupt your understanding of these elements, you will probably either go back a few pages to reread, or pause the video to ask the person next to you, “What just happened?” Running in the background is a well-attuned method of self-questioning, as you continually ask yourself, “Does this make sense?” and if it doesn’t, “What do I need to do to regain understanding?”

Humans are pattern-seekers and meaning-makers, and we continually strive to make sense of what is happening around us. When it comes to reading, there exists an innate need to make sense of text. But readers also need to be taught how to monitor their comprehension, and what to do when it breaks down. This is accomplished through two approaches:

1. Provide questions readers can use as they query their understanding
2. Teach students to pause periodically throughout a text to generate their own questions
Provide Questions

Furnishing predetermined questions during the deep consolidation phase is useful as it reminds students about the metacognitive practices they need to propel their learning and monitor comprehension. It is common for students who are deep into a unit of study to engage in investigation and research. But the advent of online sources has introduced other considerations that teachers of earlier generations did not face. The Internet is an excellent source for digital material, but it is also fraught with problems that can derail student projects. Chief among them are issues of credibility and accuracy of information. Teachers aren’t able to curate source materials as they once did, and now must equip students with the ability to question sources. Eighth-grade English teacher Kim Van Natta teaches students a method for critically analyzing Internet sources as they conduct investigations for extended writing. She posts these questions on every laptop in her classroom:

1. Does this site contain information that is accurate?
2. Does it identify the hosting institution?
3. When was it last updated?
4. Are there links to other sites? Are those links of similar quality?

The ultimate goal for her students is to be able to evaluate websites themselves, so that they can critically analyze information. “But I also know this takes years to develop, being able to use a critical and skeptical eye,” said Ms. Van Natta.

To accomplish this, she has modeled and used a think-aloud approach to introduce them to the process, using a digital source critique sheet that accompanies their research (see Figure 3.2).

“I want them to be able to screen Internet sources, and I require them to submit these critiques as part of their bibliography. It’s not enough to just cite the source. I want them to have looked at these sources closely.”

Her intent, however, doesn’t stop at getting her students to successfully complete forms. “This is a bridge to the kind of self-questioning habits
WEBSITE EVALUATION TOOL

URL: ________________________________________________________________________________________________

1. Title of website: ________________________________________________________________________________________________

2. What is the main purpose of the website? ________________________________________________________________________________________________
   Is it selling something? Does it describe a service? Is it an educational site?

3. Who created the website? ________________________________________________________________________________________________
   Is there a contact name? Is it a private company? Is it a school? Is it a government agency? Is there an “about us” section?

4. How current is the website? (When was it last updated?) ________________________________________________________________________________________________

5. Are links available to other sites? (Try some of them to make sure they work.)
   ________________________________________________________________________________________________

6. Are there references or citations? ______ If yes, what are they? ________________________________________________________________________________________________

7. What new information did you learn from this website? ________________________________________________________________________________________________
   ________________________________________________________________________________________________
   ________________________________________________________________________________________________

8. What information is missing? ________________________________________________________________________________________________
   ________________________________________________________________________________________________
   ________________________________________________________________________________________________

Source: Fisher, Frey, & Gonzalez (2010). Used with permission. From Literacy 2.0: Reading and Writing in 21st Century Classrooms by Nancy Frey, Douglas Fisher, and Alex Gonzalez. Copyright 2010 by Solution Tree Press, 555 North Morton Street, Bloomington, IN 47404, 800.733.6786, solution-tree.com. All rights reserved.

Figure 3.2

Template available for download at http://resources.corwin.com/VL-Literacy
they need when confronted with information,” she explained. To do so, she embeds similar questions into discussions. “When I show them a video clip on a topic, for example, I ask them to critique what I have shown them,” said Ms. Van Natta. “I feel that’s a major responsibility of my job teaching adolescents. Can I build the habit of scrutinizing information closely? That’s an intellectual habit that will stay with them long after they’ve left my classroom.”

Teach Students to Ask Their Own Questions

A second method for fostering self-questioning is by creating points when they compose their own questions. This approach is particularly useful as students read longer pieces of narrative and informational texts. Many children adopt a naïve assumption that people read long passages without interruption, and then process all the information at once. Teaching them how to break a text into more manageable chunks so they can use self-generated questions will equip readers with strategies for maintaining understanding.

Fifth-grade teacher Joyce Gomez uses a method described by Berkeley, Marshak, Mastropieri, and Scruggs (2011) to build the habit of teaching her students to engage in self-questioning when working with informational texts. She uses headings and subheadings in articles and textbooks as stopping points for students to ask themselves questions.

“When we first began doing this at the beginning of the school year, I did lots of modeling, as you can imagine,” she said. “I taught them about why self-questioning is important, and made note pages for them like this one to structure the process,” she continued, displaying the sheet found in Figure 3.3. “As we’ve progressed, I have faded out the note pages and shifted them to writing questions in their journals. I leave it to them to chunk the text for themselves, because not every-thing we read has headings and subheadings.”

Ms. Gomez speaks to individual students to check in with them about their self-questioning. “I ask them to answer a question they’ve written. If they can, I give them feedback about the use of this strategy. If they can’t, I ask them about other strategies they can use to regain understanding.”
**SELF-QUESTIONING**

**Directions:** Before reading, write down a question you expect to be answered in each section. At the end of each section, see if you can answer your question. If you can’t, use one or more of these strategies to help yourself:

- Reread the passage with your question in mind.
- Check for unknown vocabulary (look inside and outside the word or phrase).
- Check graphs, diagrams, or photographs that are in the section.
- Write your question to ask me about it.

**Article Title:** “The Sun in Our Solar System”

<table>
<thead>
<tr>
<th>Heading: The Sun Is a Star</th>
<th>Your question:</th>
<th>Now that you have finished, can you answer your question?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes  No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subheading: Our Sun and Other Stars</th>
<th>Your question:</th>
<th>Now that you have finished, can you answer your question?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes  No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Heading: Features of the Sun</th>
<th>Your question:</th>
<th>Now that you have finished, can you answer your question?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes  No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subheading: Temperature and Composition</th>
<th>Your question:</th>
<th>Now that you have finished, can you answer your question?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes  No</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subheading: Layers of the Sun</th>
<th>Your question:</th>
<th>Now that you have finished, can you answer your question?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Yes  No</td>
</tr>
</tbody>
</table>

Figure 3.3

Template available for download at [http://resources.corwin.com/VL-Literacy](http://resources.corwin.com/VL-Literacy)
Reciprocal Teaching

The emphasis in reciprocal teaching is on deploying comprehension strategies to make meaning, engaging in self-questioning, and chunking texts into smaller passages. All of this is done in the company of a small group of peers, who work together to co-construct meaning from text (Palincsar & Brown, 1984). The evidence of reciprocal teaching is broad: Palincsar (2013) notes that other researchers have found it to be effective with students with disabilities, English learners, and bilingual students. Although reciprocal teaching can be used in service of students acquiring a surface level of knowledge, the expression of so many features necessary for deepening learning made it a good candidate for this chapter.

Reciprocal teaching (RT) is a structured reading routine enacted by four students who are working through a piece of text. RT discussions are composed of four strategies, which are systematically introduced and taught:

- **Summarizing** each passage to extract key information and central themes
- **Questioning** at the literal, structural, and/or inferential levels about the passage
- **Clarifying** information and ideas through discussion and checking in with peers
- **Predicting** the content of the next passage, given what the author has explained thus far

The teacher segments the text into smaller chunks, and students are taught to pause after reading each segment to discuss its content using these four strategies. Because RT enlists so many complex cognitive behaviors, teachers commonly introduce it across multiple lessons, as each comprehension strategy is practiced and then paired with subsequent strategies until students are adept at doing all four. In the early stages when students are still learning about RT, they are typically assigned these as formal roles (summarizer, clarifier, and so on). But as Palincsar (2013) notes, the larger goal is that students deploy these strategies “opportunistically” (p. 370).
Therefore, formal roles and structured dialogues give way to more organic discussions about complex text.

Holly Baker listens for this kind of discussion in her sixth-grade language arts classroom. The staff at her school adopted RT as a signature practice several years ago, which means that she doesn’t have to spend much time on teaching the procedure. “The kids at the school have been using RT since third grade, so the only ones I need to teach it to are the ones who are brand new,” she said. Because her students have had several years of experience in using RT to understand text, Ms. Baker is able to employ it almost immediately.

“We’ve been reading some informational articles about child labor laws to augment our focus on the working lives of boys and girls,” she explained. She joined a group of four students who had located information about children who worked in the United States in the 19th century. The students were debating the implications of a passage about the number of children:

**Grecia:** It says in here that 18% of children had jobs in 1900.

**Brandon:** But you’re missing something, because it also says that this was “understated.” It says “at least” 18% had jobs, so maybe it’s more.

**Sarita:** But how much more? I don't think there is a way to know that.

**Grecia:** I agree, because the author also said that there were lots of people coming to the U.S. . . .

**Sarita:** . . . and remember that the last section said that there wasn’t a lot of enforcement of the child labor laws, so . . .

**Kiara:** I wrote it in my notes: “people looked the other way.” So what changed?

**Brandon:** Maybe that’s what’s in the next section.

Ms. Baker later said, “I was glad to hear that level of discussion, and how they just talk about what they’re reading very naturally. But it also gives
me some insight into how to follow up with them. I’ll find out what they’re still wondering about at the end of the article, and help them figure out what they need to research next.”

**Feedback to the Learner**

The metacognitive and self-regulatory skills of students are strengthened through feedback from the teacher. When the feedback is delivered such that it is timely, specific, understandable, and actionable, students assimilate the language used by the teacher into their own self-talk. What we say to children, as well as how we say it, contributes to their identity and sense of agency, as well as success. The messages that students receive externally become the messages they give themselves. We’re speaking not strictly of praise, but rather of making sure that we not only commend learners when, and for what, they are doing well, but also label their actions for them. When a student needs direction, our feedback should assist her in identifying the actions she needs to take in order to get back on the path. Saying to a learner, “What can you do next to find that answer?” sends an underlying message that she has agency and can take steps. In contrast, telling a learner, “The answer is on page 37,” without giving her an opportunity to resolve what’s blocking her, tells her that you don’t believe she is capable of doing so. Students shouldn’t be reduced to tears in trying to move forward—we don’t want to withhold information from students indefinitely—but we do want them to develop the kind of self-talk they need to persist when things get difficult, and to bounce back when confronted with failure.

It’s important to say that we are not enamored with failure. No one likes to strive toward something only to repeatedly fall short of the goal. Having said that, small failures are a part of the learning process, and can actually lead to a more attenuated understanding of why something didn’t work the first time, so as not to repeat it again. It’s not the failure in isolation that we’re talking about, but rather the pairing of a small failure followed by a small success.

Effective teachers look for opportunities to give feedback to students by playing back what occurred. Saying to a student, “I can see you had
trouble with this part of the assignment, but then you solved it. What did you do that led to this success?” alerts him to think reflectively about the strategic thinking and action he took to get himself over a hurdle. In doing so, we give him the internal scripts he needs to become an increasingly self-directed learner.

It is equally important that we not dilute feedback with praise. Dweck (2006) has written extensively on the damage praise about the individual can do in reinforcing a fixed mindset, rather than a growth mindset. Students with a fixed mindset have been conditioned to believe that innate qualities such as intelligence and talent are the keys to success, and they discount the role of effort or their own agency. Although we don’t mean to, too often we communicate our own beliefs in a fixed mindset when we tell students, “You’re so good at reading!” instead of saying, “You’re reading comprehension has really improved this quarter. Look at the difference in your scores since the last quarter. I’ve also seen how much more time you’re spending each day in independent reading.” Highlighting progress further builds a learner’s sense of agency as he sees the relationship between his success and his actions.

Hattie (2012) speaks of three internal questions that drive learners:

- Where am I going? What are my goals?
- How am I going there? What progress is being made toward the goal?
- Where to next? What activities need to be undertaken next to make better progress? (p. 116)

The feedback we give students at any point in their learning falls into four levels:

- **Feedback About the Task**: How well has the task been performed; is it correct or incorrect? For example, “Your goal was to list all of the reasons why this event occurred so you can organize your essay, but the second point is unclear. You need to change the wording so that your argument is stated using an active voice, rather than a passive one.”
• **Feedback About the Process**: What are the strategies needed to perform the task; are there alternative strategies that can be used? For instance, “I can see that you’re not sure what categories you want to use for your concept word sort. What is another way you could solve the problem?”

• **Self-Regulatory Feedback**: What is the conditional knowledge and understanding needed to know what you’re doing (self-monitoring, directing the processes and tasks)? For example, “When you got frustrated with your group, you moved your chair back and took a breather. Then you rejoined them a minute or two later, and your group completed the task. Why did that work for you? How were you different after you rejoined them?”

• **Feedback About Self**: Personal evaluation and affect about the learning. For example, “Excellent job! You are such a talented writer.”

The first two levels, task and process, are more commonly used in classrooms, and we witness teachers using these on a frequent basis. The fourth level—feedback about self—is unfortunately used too often by well-meaning teachers. Although meant to bolster self-esteem, it appears to have a zero to negative impact on learning, especially in discouraging students from engaging in any further revision of their work (Hyland & Hyland, 2006). We want students to think positively about themselves, and praise is a tool that can contribute to positive teacher–student relationships. The message should not be interpreted as “do not give praise”; instead, the message is to separate the praise from feedback about the task, and the learning. It’s important that adults don’t withhold their unconditional positive regard for students, but praise that masquerades as feedback can undermine efforts to motivate and encourage.

But it is this third level of feedback—self-regulatory feedback—that plays such a prominent role during deep consolidation. Think about the instructional approaches we have profiled in this section. All of these methods offer critical opportunities for teachers to dialogue with students as they delve into increasingly self-directed learning. Consider the power of the self-regulatory feedback 11th-grade English
teacher Brad Stevenson gave to a student who was having difficulty composing a literary critique of a novel she had read, using a psychoanalytic criticism frame:

**Mr. Stevenson:** When I talked with you yesterday, you weren’t sure where you were going to go next in your literary criticism essay. What needs to change for you to get reenergized?

**Shakira:** I don’t really like this frame, with all that business about Jung and Freud.

**Mr. Stevenson:** So it doesn’t feel natural to you. If you were analyzing this story, what frame would you select?

**Shakira:** Well, a feminist slant makes a lot more sense to me. And the protagonist is a woman.

**Mr. Stevenson:** I can see why that makes sense, but I think you’re overlooking the era it was written in. It was written when psychoanalytic thought was at its peak.

**Shakira:** True, but I just don’t like it.

**Mr. Stevenson:** I want you to notice right now that it’s feeling uncomfortable, and why it’s feeling that way. Is it because it’s stretching you?

**Shakira:** [laughing] Yeah, it is.

**Mr. Stevenson:** So recognize it’s a stretch and a challenge, and remember that your goal at the beginning of this year was to broaden your understanding of world literature and formal criticism. What steps should you take next to get yourself better prepared for this assignment?

**Shakira:** I guess I need to go back to my notes and materials about psychoanalytic criticism.

**Mr. Stevenson:** That sounds like a good start. I admire how you’re pushing through this, even though it’s not your go-to lens for viewing this story. Let’s talk tomorrow in class after you’ve done that studying you talked about. And I’ll want to hear how that action has made you more confident about completing this assignment.
Throughout the conversation, the teacher kept the focus on feedback, not praise. Yet clearly this was a warm and encouraging conversation. He spoke about the task and the process, but really emphasized Shakira’s ability to take action and change the outcomes. To be sure, the discussion took a few minutes to conduct. But the time is well worth it, and is critical as students move from deepening their learning to moving into transfer. Our efforts to equip students with the tools, strategies, and scripts for talking to themselves make moving to transfer, which is the subject of the next chapter, possible.

**Conclusion**

In order for students to deepen their knowledge, they need to have their learning made visible to them. It’s how they can take action on what happens next. The language and behaviors we use with them assist them in understanding who they are as learners, what the task demands are, what strategies they can leverage to resolve problems, and how they can persist when things are difficult. Embedded within these is resiliency. Learners who are resilient can come back from failures and incorporate challenges into their growing sense of who they are. Consider anything you’ve learned and that you value as an accomplishment. Without a doubt, you faced challenges, and sometimes some failures, as you completed that journey. Now consider who guided you along the way. Chances are just as good that those people equipped you with tools and strategies to move forward, using language and behaviors that you took to heart. Teaching requires lots of heart, along with an unflagging belief in the ability of your students to achieve success. Don’t be afraid to tell them, and show them, your confidence in them.