This chapter provides evidence that educators can have a significant impact on students’ academic engagement and achievement by fostering adolescent students’ development in four interrelated areas: (1) dispositions for engagement in academic tasks; (2) disciplinary knowledge; (3) capacities for problem solving with texts; and (4) shifts in learner identity. We discuss research supporting engaged academic literacy as a model for school-based literacy that contrasts in pedagogy and purpose with a more traditional conception of academic literacy. The model presented in this chapter builds on recent conceptions of reading and writing as literacy practice and adds support for an apprenticeship model that develops affective aspects of interaction with texts. The importance of students’ active engagement in literacy tasks is central and is seen here as a quality that teachers can foster and actively support. Given our assumption that academic literacy practices are shaped by the conventions and discourses of the disciplines, we discuss some of the relevant literature on discipline-specific literacy, focusing on science and history. These discussions of discipline-specific learning are then illustrated through snapshots of two classrooms from our research studies—a high school Introduction to Chemistry classroom and a high school U.S. History classroom. We conclude with a brief discussion of ideas for fostering the kind of engaged academic literacy portrayed in these classroom snapshots, as opposed to the superficial version of academic literacy described in the introduction to the chapter.

. . . it wasn’t like it was spread all over the place, like you had to read it. It was just like, if the “red square question” was here, you knew it was somewhere around that area right there. And you could just look for the answer and copy it down and you got full credit for it. So you didn’t have to read. It was something that you could like slide by without them knowing. I don’t know if they cared or not, but that’s the way everybody did it. You see the “red square question” and you sort of calculate where it’s around, you find the answer, and you write it down, and that’s it.

—Rosa, a ninth-grade student, describing her experiences reading history
The learning opportunities students experience shape the literacy capacities they develop; these opportunities also shape students' conceptions of the academic disciplines in which these capacities are used (Greenleaf, Schoenbach, Cziko, & Mueller, 2001). The tasks teachers ask students to do as they work with subject area texts also powerfully influence students' beliefs about their capacities and identities as learners (National Research Council, 2004). If we want students to be able to think and read critically, to write and talk knowledgeably about historical, scientific, mathematical, or literary topics, we need to provide richer learning opportunities than those "red square questions" Rosa describes above. In this chapter, we argue that in order for students to become increasingly independent, capable, and critical in their thinking, reading, writing, and speaking in varied disciplinary domains and the complex literacy tasks of daily life, they need learning opportunities that help them develop the following dispositions, skills, and capacities:

1. Dispositions for engagement in academic tasks.
2. Text-based problem-solving capacities.
3. Discipline-based literacy practices.
4. Resilient learner identities.

Research reviewed in many recent reports on adolescent literacy indicates that the majority of middle and high school students—including most who go to college (ACT, 2006)—are not prepared for higher-level comprehension, critical reading, writing, and speaking skills required in high school and beyond (e.g., Snow & Biancarosa, 2005). Although there are disagreements about the severity of the problem (Berliner & Biddle, 1995), few would argue that secondary educators are doing an adequate job helping students develop required levels of literacy.

These recent reports and the growing policy attention surrounding them reflect increased awareness of the need to help a large majority of students attain more sophisticated literacy levels. But rather than supporting educators to move in the direction of creating learning environments in which more students can achieve higher literacy capacities, current prevailing policies create the opposite effect. The vast majority of high-stakes tests currently in use across the United States simply do not promote this kind of learning (Hillocks, 2002). Instead, many teachers and administrators face tremendous pressure pushing them to promote the kind of rote learning—the search for the kind of "red square question" mentioned above—that has long characterized teaching in U.S. secondary schools (Cuban, 1989).

In this chapter we present an alternative way of supporting adolescents' content-area learning at the secondary level: building what we call engaged academic literacy. The perspective and ways of teaching we present come from a deep reservoir of work on literacy that has been developed by scholars and practitioners working in varied and interrelated areas, including cognitive science and sociocultural learning theory; psychological research on motivation, engagement, achievement, and identity; and sociology and anthropology focused on the practices of communities such as historians and engineers.

Our view of academic literacy as active, engaged, and empowering is grounded in recent conceptions of reading and writing as literacy practice (e.g., Scribner & Cole, 1981; Street, 1995). Literacy is understood as a social, cultural, and cognitive activity shaped by particular communities and by the particular situations and contexts in which reading and writing occur. Academic disciplines, in this conception, are understood as socially constructed, evolving, and open to interaction with other disciplines. Reading researchers who focus on content-area literacy have called for a shift toward a social practices conception of the subject areas (Bean, 2000), and toward explicitly teaching academic literacies in ways that make apparent, and support the development of, valued reasoning practices in the subject areas (Greenleaf et al., 2001). Thus, scholars helping to reframe the way we think about academic literacy emphasize the importance of helping students learn discipline-specific literacy practices as well as more general literacy strategies (Moje, Dillon, & O'Brien, 2000).

In addition to the work on specific literacy practices of varied disciplines, there are studies of youth literacy in out-of-school settings demonstrating the capacity of young people to engage deeply in reading, writing,
and communicating through textual, visual, and other means (Alvermann, 2002). These studies point to important resources for adolescent learning that are largely unrecognized and underutilized in academic classrooms. And while voluminous studies have aimed to describe situated literacies, instructional models—methods that secondary school teachers can actually use in instruction—that draw from these newer conceptions are just beginning to be developed and used in the field (e.g., Ford & Forman, 2006; Greenleaf, Hale, Charney-Sirott, & Schoenbach, 2007; Langer, 2001; McConachie et al., 2006).

We use the phrase engaged academic literacy to refer to the kinds of learning environments in which students work actively with one another, with teachers, and independently, to understand challenging texts in ways that have meaning for them and that build on their knowledge, experience, creativity, and questions. We use this phrase to emphasize that academic literacy is not merely “the basic reading and writing skills taught in a conventional literacy medium . . . during elementary and middle school years” (Holbrook & Koenig, 2000, p. 265) applied to learning information from expository texts. By adding the word engaged, we mean to distinguish between the skilled but rote and unsophisticated kind of academic literacy that many “successful” students master, and the more analytic, critical, and discipline-specific ways of making meaning emblematic of engaged learners. Also crucial to our view of academic literacy is that students develop their own reasons to become more interested and competent in using discipline-based literacy practices.

In the following sections, we discuss the four types of learning opportunities we argue are essential for fostering students’ academic literacy development. We ground this discussion in examples from two classroom cases. One is an introductory chemistry classroom in an urban high school in which 40% of students scored below the 10th percentile on a standardized reading test. The other is an honors U.S. history classroom in a rural high school serving many students from migrant worker families. We conclude with a brief discussion of what we believe helps to foster the engaged academic literacy demonstrated in both of these classrooms.

**LEARNING OPPORTUNITIES THAT FOSTER ADOLESCENTS’ ENGAGED ACADEMIC LITERACY**

We view the kind of engaged academic literacy learning described below as best supported through what has been called an apprenticeship model of learning (Rogoff, 1990). When teachers apprentice students in the literacy practices of their disciplines, they make explicit the tacit reasoning processes, strategies, and discourse rules that shape successful readers’ and writers’ work (Brown, Collins, & Newman, 1989; Lee, 1995; Osborne, 2002). As apprentices, students need plentiful opportunities to use these strategies with authentic texts and to discuss their ideas and experiences with others (see RAND Reading Study Group, 2002, for a review of this research).

**Developing Dispositions for Engagement in Academic Tasks**

Teachers who establish successful literacy apprenticeships for adolescents are attentive to affective and identity issues as well as to cognitive and knowledge issues. They create learning opportunities that help students develop dispositions for engagement in academic tasks, text-based problem-solving capacities, discipline-based literacy practices, and resilient learner identities. We describe these in general terms and then refer to them within the context of Will Brown’s introductory chemistry class.

Students’ willingness to make mistakes as part of learning is closely tied to their beliefs about whether intellectual ability is fixed or (at least partially) the result of effort (Dweck & Molden, 2005). For many students, the sense of a fixed identity (“I’m not a reader,” “I’m not a good student,” or “I just don’t have that kind of mind”) is a powerful barrier to learning. The heightened self-consciousness and sensitivity to peer group perceptions of students in middle school and high school can make this especially difficult.

To marshal and focus the effort required for academic work, most adolescents need support for developing key dispositions for approaching and engaging in challenging tasks. These include general dispositions to be interested and critical learners—having, for example, characteristics such as curiosity, tolerance for ambiguity, and the expec-
tation that one should be constructing understanding rather than passively carrying out prescribed procedures (Yore, 2004). Such dispositions also include maintaining confidence in their own abilities and in the value of persistence, even while struggling through challenging text—for example, through motivating self-talk (National Research Council, 2004). Many adolescents who struggle with academic reading have misconceptions of what reading is, seeing it as a magical process in which comprehension just happens for successful readers (Greenleaf et al., 2001). For such students, developing the disposition of feeling in control of their reading, or having a sense of agency in their reading and learning, is crucial.

In addition, students often need support to develop dispositions to read, write, and think critically and to learn to do so with reference to evidence as required in particular disciplines. Support for the disposition to approach unfamiliar text with a code-breaking stance in which they have analytic skills for using strategies is especially important for students classified as struggling readers.

Introducing students to the idea that texts are not repositories of received wisdom, but documents constructed by particular authors in particular contexts for particular purposes, can empower them to begin to read more critically. Support for students to develop general dispositions toward engagement in learning must be complemented by varied practices for extending and elaborating students’ capacity to do in-depth intellectual work. These include helping them develop stamina for reading and writing for increasing lengths of time, as well as sustaining interest in and participating productively in meaningful discussions.

In the classroom introduced below, we illustrate some of the ways in which a chemistry teacher in an Oakland, California, public high school provides support for his students as they develop these kinds of dispositions and intellectual habits.

\textit{Introduction to Chemistry: Developing Dispositions for Engagement in Academic Tasks}

It is the first day of the school year in teacher Will Brown’s Oakland high school class, Introduction to Chemistry. Forty percent of the students have scored below the 10th percentile on the state’s standardized reading test. Students are taking the course as a graduation requirement.

The computer monitor in the front of the classroom reads:

\begin{center}
\begin{tabular}{|l|}
\hline
Welcome to Introduction to Chemistry  
Please take your assigned seat. See seating chart on front table.  
Preamble #1: Write 1/3 page and keep.  
What do you know or think about mixtures and solutions?  
What do you want to learn about mixtures and solutions?  
\hline
\end{tabular}
\end{center}

As students find their way to nine round tables labeled with team names such as Carbon Cavaliers, Kinetic Kids, Solubility Stars, and Periodic Pros, Will explains, “We start every day with a ‘preamble,’ about a third of the page each. We do a lot of things in the preambles that you won’t want to miss. This is something you’ll want to put back in your binder.” As students begin to write, Will tells them, “Leave some space and when you hear good ideas from your peers, you can fill them in.” A few minutes later, Will invites volunteers to share their responses to the preamble questions.

Before hearing from students, Will introduces norms for classroom discourse. “Let’s all turn so we can see the person who’s talking. And I’m going to go to the side of the room, to help train you to talk to the class. Everyone here needs to hear what you’re saying to be part of that learning process.” As three students share what they know or think about mixtures and solutions, Will acknowledges, validates, paraphrases, frames, and elaborates students’ contributions in ways that demonstrate his undivided attention and respect for student thinking.

Erika, an English learner from the Sudan, offers, “I think it’s something that you can make or something like that. I don’t really know.”

“So we can make solutions? That’s a good thing to know about,” Will responds. “We can, and we will make them—very generally or very particularly.”

The preamble discussion leads to a hands-on investigation and observation of mixtures
and solutions, with students immediately immersed in active science inquiry and sense making. Most of the students in this classroom did not initially see themselves as people who were capable of understanding science. They were not particularly interested in learning science—chemistry in this case. From day one, however, Will puts these young people in the role of science learners, naming small groups with chemical terms, inviting them to become interested in mixtures and solutions and to bring their thinking and experiences into the room, and making them responsible for listening to and learning from each other. He builds routines that support their risk taking, sets thoughtful expectations for classroom discourse, and models and supports collaboration in a learning community. From the first day of class, he treats them as capable students, eager and able to “do science.” Further, he designs lessons to engage students’ interests, leverage their preference for social interaction toward academic ends, and draw on their knowledge and experience.

Developing Text-Based Problem-Solving Capacities

Reading is a process of solving problems to make meaning of texts (Pressley, 1998). Over the past several decades, a great deal of research has demonstrated that integrating the explicit teaching of comprehension, text structure, and word-level strategies into compelling sense-making activities with texts increases student reading achievement (Pearson, 1996). Researchers argue that for the reading and reasoning processes of academic disciplines to become part of the repertoires of a broader population of students, teachers need to engage a much broader range of students in complex academic literacy tasks, at the same time providing the explicit teaching and support necessary for students to perform the tasks successfully (Delpit, 1995). Accordingly, recent national reading research reports, including those of the National Reading Panel (National Institute of Child Health and Human Development, NICHD, 2000) and the RAND Reading Study Group (2002), have called for more classroom instruction time devoted to key cognitive strategies, such as questioning, clarifying, summarizing, and predicting.

Explicit instruction in such strategies—as when teachers continually model and demonstrate as well as talk about what they are doing—is critical to students’ gaining the necessary metacognitive awareness and control to determine which strategies to use how, depending on the content and difficulty of the text (e.g., Bransford, Brown, & Cocking, 1999). When readers learn strategies in the context of in-depth content learning, they are more likely to understand the strategies as purposeful tools that they can and will use flexibly to support their understanding of new texts (Guthrie, 2004).

Introduction to Chemistry: Developing Text-Based Problem-Solving Capacities

Midway through the academic year, Will Brown’s students are immersed in a unit on acids and bases, which involves an extended investigation of the properties of acids and bases by determining the pH of 12 household chemicals. Over several days, class activity moves fluidly between hands-on inquiry, exploration with laboratory materials, and inquiry structured by science texts. In a 5-minute video of Will’s Introduction to Chemistry classroom, these low-achieving students work with multiple texts, concentrating intently on reading, taking notes, and working through the lab. This short video clip and accompanying text can be viewed at www.wested.org/cs/sli/print/docs/922.

Students have completed one laboratory investigation when Will introduces the article “Chemical Reactivity: Acids and Bases” and tells students how he will help them build their capacity for handling the challenges of reading chemistry. “This reading is structured in a very particular way,” Will explains, “I’m going to . . . do some modeling of the reading, then we’re going to sort of practice it individually, and then together, and then more and more it’s going to move to you taking more and more responsibility for the practice.”

Will demonstrates his own thinking processes as he reads a section of the text, stopping to highlight the work he is doing to: (1) clarify any confusing words or ideas, (2) ask questions that come to mind about the science, and (3) summarize as he reads to capture the gist of what he read before moving
He asks students to practice these three thinking processes as they read, working individually and with their small groups. Students read the first section of the article using Talking to the Text, a metacognitive reading strategy that is a routine in this class.

When Will invites students to share any difficulties they are having with the text, Erika complains that the reading is boring. In response, Will initiates a whole-class conversation about what makes reading boring. Among the answers Erika and her classmates offer is that the text doesn’t make sense. Because Erika’s lack of interest in the reading stems from her failure to make sense of the text, Will encourages her to return to the text, writing questions and comments in the margin to identify places where she needs the help of the class, and then to work with classmates to clarify confusions. As Erika and her classmates share their confusions, understandings, and reading processes, her evident stamina for solving reading comprehension problems increases.

Jeffrey offers something the text made him wonder: “I had a question on where it said, ‘A fundamental property of acids and bases is that an acid and a base always react to ‘neutralize’ one another.’ Why do they neutralize one another?” As he shares his curiosity with the class, Will records this question on the board at the front of the room.

Durrell points the class to the place in the text that prompted his question: “It said, ‘One excellent way to tell whether an acid–base reaction has occurred is to use an indicator in the reaction mixture.’ Is there more, what’s the other ways? Are there more than one way?” In effect, Durrell has modeled using signal words in the text (“one way”) to anticipate what he may learn through the unit (“other ways”). As Will writes this question on the board, he comments, “We’re going to explore some of the answers to it, so I’m not going to respond right now.”

Monae contributes a question focused on the chemistry of acids and bases: “It says that it indicates whether a substance is an acid or a base depending on what color change it produces in the dye. Like how do you know what colors are acids and which are bases?” Monae’s question about the text foreshadows the continuing work of the lab exploration. Will is delighted to have this connection made for him: “Ah! Acid and base colors. That’s one of the big issues of this lab!” Students’ questions remain on the board as a record of their thinking and of the questions that will animate their further work in the unit.

As new reading opportunities arose in the classroom, Will modeled his own sense-making processes by thinking aloud as he worked to understand a reading or chemistry problem. By making his own reading and reasoning processes—the confusions, clarifications, and connections—visible, Will demonstrated mental engagement and problem solving as the hidden work of comprehension. His willingness to show his students how he actually works to comprehend texts helped students realize that it is strategic effort and not magic that is involved in comprehension. To support students’ development as science readers, Will provided ongoing opportunities and made students responsible to reflect on their own thinking and learning through a small number of metacognitive literacy routines such as Talking to the Text, double-entry reading logs, K-W-L activities (Ogle, 1986), and Team Reads, his own adaptation of Reciprocal Teaching (Palinscar & Brown, 1989). Through repeated cycles of reading and exploring and talk, Will’s students practiced reading comprehension strategies and gained stamina for challenging reading along with a growing understanding of the chemistry content.

**Developing Discipline-Based Literacy Practices**

Literacy practices and the language used in school texts become increasingly specialized throughout the school career, reflecting the broader activities that characterize the academic disciplines (Borasi & Seigel, 2000; Lemke, 1990; Wineburg, 1991, 2001). Canonical knowledge, reasoning processes, interpretive practices, ways of engaging, reasoning processes, the terrain of ideas, activities, literacy tasks, texts, and genres—all vary across and within disciplinary traditions.

As students encounter more sophisticated disciplinary texts and tasks, they need support to learn more discipline-specific strategies. When teachers see their own invisible mental processes as they encounter challeng-
ing texts in their disciplines, and when they bring students into a community of learners where student thinking is made visible and available for discussion, students are significantly empowered to work with academic texts (Greenleaf & Schoenbach, 2004).

What Is Specific to Academic Literacy in Science?

To learn science is to learn not only a body of scientific knowledge but also ways of participating in scientific exploration and reasoning. Access to the scientific community and the ability to carry out or evaluate the outcomes of science inquiry rely on sophisticated literacy skills—the ability to make sense of scientific terminology, to interpret arrays of data, to comprehend scientific texts, to use and interpret models and illustrations, and to read and write scientific explanations (Osborne, 2002). Several research studies have also shown the reciprocal effect of science inquiry on developing students' reading skills and comprehension (Baker, 1991). Yet many science teachers are not certain how to integrate science reading experiences with hands-on investigations and are keenly aware of students' difficulty in comprehending science texts. As a result, in recent years there has been a widespread reduction of reading in secondary science classrooms, precisely as policymakers are raising alarms about the reading proficiencies of adolescents (Rycik & Irvin, 2001).

Introduction to Chemistry: Developing Discipline-Based Literacy Practices

As the students in the Introduction to Chemistry class work through the acids and bases unit, they not only gain stamina for bringing problem-solving strategies to bear on reading complex texts, but they also receive abundant support in thinking scientifically as they read and carry out their hands-on investigations. Will provides a three-page handout describing the exploration tasks that students are to carry out. In order to help them actively make sense of their work, take an inquiring stance, and extend their inquiry into an investigation they design, he prompts them with questions such as the following:

“Do you see a pattern in the two groups’ acid–basic properties?”

“Predict the pH trend you might observe as you add NaOH to the vinegar. What information guided your prediction (best guesses are okay here)?”

“As a team, review your data. For each task, discuss and answer both of the following questions: What interesting observations, trends, or patterns do you find? How might you interpret or explain the observations, trends, or patterns you see?”

“What did you learn through this lab? What else do you want to learn about acids and bases? What experiment would you like to try?”

Students begin the unit working in teams to generate two lists to share with the class: things they already know about acids and bases—“an acid–base idea inventory”—and questions showing what they would like to learn about acids and bases. Will also assigns the first 15 pages of the textbook chapter on acids and bases as homework. Students construct reading logs as they work through the assigned pages in the textbook, noting excerpts and ideas from the text in the left column of a T-chart and recording their thoughts, reflections, and questions in the right column. Will collects and responds to these reading logs, focusing his attention on the right column in order to find student questions that he can make salient, prompt students into thinking more deeply about the text and the science, celebrate students’ insights, and make note of students’ growing stamina and effort in learning.

In the laboratory, teams experience the drama of acid and base chemistry firsthand. They make pH meters and then confer with peers as they read and follow the directions for using them and recording their results. They use T-charts for recording “observations, data, calculations, and answers” and “thoughts, reflections, and questions.” As a metacognitive tool, the T-chart glides from textbook to laboratory exploration and back, making student thinking and reasoning processes visible and leaving a record of the observations and explanations students construct as they work.

Working through the ancillary text, “Chemical Reactivity,” students alternate between reading a small section of the text
individually and discussing it with their three teammates. In both the individual reading and small-group conversations, students continue to monitor their reading and thinking processes and practice the three cognitive strategies Will has modeled: clarifying, questioning, and summarizing. As they work, Will moves through the class, listening to their discussions and helping them learn to carry out Team Reads, his version of Reciprocal Teaching that is guided by role cards that ask individuals to be the “clarifying coach,” the “questioning coach,” or the “summarizing coach.” Will moves the class in and out of cycles, modeling these coaching roles as students’ work in their teams. The questions students have generated move them back into investigations, guided now by their own thinking, inquiries, and need for clarification.

The texts of the science world and of Will’s chemistry classroom are clearly multiple and varied, ranging from traditional, encyclopedic textbooks to trade journals and science reports, numerical equations, visual and physical models of atoms and molecules, and conventional systems for denoting chemical bonding such as Lewis dot structures, chemical equations, and drawings of atomic structures. Even laboratory equipment and the phenomena explored in the lab require reading and interpretation. Each of these texts poses a comprehension problem for the science learner. In this classroom environment, inexperienced academic readers are apprenticed, over time and in multiple ways, to the literacy practices of science and to the reasoning processes that support and sustain science inquiry.

Developing Resilient Literacy Identities

A critical and often unacknowledged part of some adolescents’ literacy development involves helping them transform the identities of nonreader and nonlearner—often formed in response to negative experiences in school—into new identities as capable readers and learners (Gee, 1996; Mahiri & Godley, 1998). As adolescents explore, or try on, possible selves, teachers encourage them to try on new reader identities, to explore and expand their visions of who they are and who they can become (Davidson & Koppenhaver, 1993). This identity work is critical if students are to embrace literacy, reengage as readers, and improve their academic performance.

Lave and Wenger (1991) describe the process of identity formation as a negotiation of the meaning of “participative experiences” and social interpretations of these experiences; through this negotiation, we construct who we are. Feldman (2004) reminds us that “learning not only changes what we know and do, but it changes who we are” (p. 144). When we ask students to learn something new, we are asking them to become someone new. When teachers are able to provide consistent support for students to try on new ways of acting, thinking, and interacting, we have seen evidence of significant shifts in academic identity over the course of an academic year (Litman & Greenleaf, 2008).

Introduction to Chemistry: Developing Resilient Literacy Identities

Key to students’ growth as science readers and learners in Will’s Introduction to Chemistry class are the many opportunities he offers students to discuss the ideas and texts of chemistry. In Will’s classroom, conversational routines include the daily preambles, small groups, and Team Reads already described. These conversational routines generally begin with individual reflection, move to small-group and whole-class discussion, and return to the individual, providing opportunities for students to revisit, revise, and deepen comprehension and content knowledge as well as to practice and refine discipline-based thinking and reading processes. As Will orchestrates these opportunities, he provides students with support for reshaping their conceptions of science, of reading, and of their own capabilities as learners.

But promoting genuine participation in these classroom routines requires patience and tact. Eduardo, a student who recently immigrated from Mexico, appeared, when he first arrived in Will’s class, to be an uncooperative and unmotivated student. His participation during the first weeks of class took the form of passive resistance and frequent interruptions and disruptions. He was slow in responding to directions or chose not to follow them at all. When Will asked students to add to their notes what they had
learned from their classmates, Eduardo sat with his binder closed. During one lesson, Eduardo kept up a steady stream of negative patter, replying to Will’s reminder to work quietly, “We don’t have to.” In spite of this beginning, and having earned poor marks in the first grading period, Eduardo went on to earn an A for the second semester. Furthermore, he developed a preference for reading science texts over literature, and expressed a desire to become an engineer.

Will observed early on that despite Eduardo’s refusal to participate in most classroom activities, he seemed to enjoy being part of class discussions. At first, Eduardo’s participation was largely tangential—telling a classmate that he couldn’t hear what she said, for example, or piggybacking on another’s idea with an offhanded “Sounds good.” However, Will consistently demonstrated that he valued students’ thinking and participation, including Eduardo’s. During one preamble discussion, for example, Eduardo declined to participate, saying his idea was similar to what a classmate had already said. But Will asked him to share his thinking anyway, explaining, “It’s important to hear different voices.” By mid-October, with Will’s mentoring, Eduardo was making more substantive contributions to classroom discussions.

In the ensuing weeks, frequent metacognitive conversations provided ongoing opportunities for the class to explore social, personal, and cognitive aspects of reading and doing science. Will shared strategies he used to make science reading more interesting and comprehensible and had students discuss what was easy, hard, interesting, and confusing for them. Although Eduardo expressed concern that the material was too hard, Will maintained confidence in Eduardo’s capabilities, and Eduardo began to realize that reading science requires effort, even for expert readers. Along with Will’s modeling and encouragement, the metacognitive reading routines helped Eduardo identify his confusions, supported his problem-solving efforts, and contributed to his growing self-confidence.

Eduardo became increasingly willing to take risks as a reader and learner. In late October, despite complaining that an upcoming lab was “too hard,” Eduardo participated and found the lab doable—as Will had predicted. When Eduardo completed his lab report early, Will leveraged Eduardo’s increasing resilience, giving him a related reading assignment from the textbook, prefaced by a remedial tutorial on reading logs. Eduardo read his textbook for the duration of the class, making notes in his log. The following week, during group reports on the lab, Eduardo was conspicuous for his engagement. He expressed interest in others’ reports, asking one group a sophisticated question about measurement. As he was leaving class, Eduardo asked Will for permission to take home his reading log, despite the fact that there was no assigned reading. “I want to read tonight,” he insisted.

As Eduardo gained confidence and expertise as a reader, Will also encouraged him to use disciplinary language to describe his own thinking more precisely. During a lesson on summarizing the “Chemical Reactivity” text, Will asked the class, “What is the important idea that keeps coming up?” When Eduardo responded, “The things about acids and bases,” Will prompted, “[Can you use] another word?” Eduardo amended his response: “Properties.” During a recap of the lesson, Will highlighted the importance of “finding the word properties.” About this time, Eduardo also showed increasing interest in chemistry for its own sake. He chatted informally with Will, asking questions about chemistry, and did extra reading for homework.

Although Eduardo’s turnaround coincided with exposure to specific reading and science strategies and routines, our data suggest that the change was a result of his broader apprenticeship in the discipline-based literacies in Will’s classroom, coupled with Will’s constant expectation that he could be successful. Frequent in-class metacognitive conversations that were wide ranging but focused on the thinking processes of reading and science supported Eduardo in rethinking his identity. He came to see himself as having the capability to succeed in class by working at it, and, consequently, experienced the goal Will expressed for all his students—“the joy of figuring things out through science inquiry and science reading.”
JOINING A COMMUNITY OF HISTORICAL THINKERS

What Is Specific to Academic Literacy in History?

Since the 1990s, there has been an unprecedented confluence of work among historians, cognitive psychologists, history teachers, professors of history education, multimedia curriculum designers, archivists, and linguists leading to new conceptions and practice in teaching history (Stearns, Seixas, & Wineburg, 2004). As in other areas of research on discipline-specific literacy practices, this work has been influenced by studies on how expert practitioners—historians in this case—carry out literacy practices. At an expert level, the study of history requires the capacity to sift through historical documents with attention to bias and perspective, to construct evidence-based accounts of probable historical events, to place documents and artifacts into larger historical contexts, to evaluate the credibility of different sources of information, and to perceive and have empathy for the experiences of others (Bradley Commission on History in Schools, 1995). This conception of what is involved in historical thinking and literacy has been reflected in the increasing prevalence of document-based questions (DBQs) in some high-stakes assessments such as the College Board advanced placement history exams (Columbia American History On-line, 2007).

Although it is not realistic to imagine that secondary students will develop the level of knowledge and disciplinary sophistication of graduate students or professional historians (Alexander, 2003), a number of promising approaches for apprenticing students to historical thinking have been developed in recent years. For example, based on analysis of differences in the thinking aloud of expert and novice historians, Wineburg and his colleagues have identified explicit cognitive heuristics, or overarching ways of thinking and working, to foster historical thinking. In their framework, students are apprenticed in the practice of “sourcing” documents, that is, looking for, finding, and analyzing the author, intended audience, and purpose of a document in order to evaluate its contents more knowledgeably. In addition, students learn to corroborate evidence and information in documents by relating them to other documents, and to contextualize historical events (Wineburg & Martin, 2004). Rosenzweig and Wineburg’s website, Historical Thinking Matters, provides a set of historical cases with carefully scaffolded texts and tasks to support students’ active inquiry (historicalthinkingmatters.org). Another Internet-based learning environment created to support students’ investigation of historical problem solving (www.pihnet.org) is based on a design theory that highlights the importance of building inquiries around “a persistent issue with moral and ethical challenges . . . as a means of facilitating motivation and engagement” (Brush & Saye, 2006).

Exploring the problem of helping students learn to read across multiple specialized historical records and make sense of discrepancies as well as similarities, Bain (2005) describes his process of teaching students to “problematize” varied accounts of the same historical event through specific inquiries. Notably, in this approach, he also finds a place for teacher lectures on particular topics—setting out broad contextual information, for example—for those elements of the curriculum in which student inquiry may not be sufficient, given the time and focus of the work. In Bain’s work, as in the classroom described below, historical understanding is created through ongoing investigation and conversation within a community of developing expertise.

Honors U.S. History

Students in Gayle Cribbs’s honors U.S. History class are being apprenticed into the practices of historical thinking as they work through a set of historical documents relating to World War II. These students live in an agricultural area of California’s Central Valley, where many families have immigrated from Mexico. Twenty-five percent of Gayle’s students have learned English as a new language, and reading scores in the class range from “basic” to “advanced” on the California Standards Test. Students have been assigned to this honors class with the understanding that although expectations are high, support is available.

In the class session described below, it is late March and students are using a variety
of problem-solving strategies as they work together to build understanding of a complex set of texts relating to Japanese internment. Students have just read *Snow Falling on Cedars*, a piece of historical fiction about the internment, and viewed *Something Strong Within*, a documentary about life inside the relocation camps. They are now beginning a weeklong unit focusing on the question of the constitutionality of the Japanese internment. After a close reading of the Articles of the Constitution, described below, they will read the majority and dissenting opinions on *Korematsu v. United States*, a 1944 Supreme Court case challenging the internment.

As students read through the Articles of the Constitution, they think aloud with a partner, stopping to clarify language they do not understand, rephrasing the gist of what they have read, and making notes so they can summarize each article.

In one partnership, Isobel reads aloud, "Habeas corpus. Didn't we hear that somewhere else before?" Julio responds, "This is what Abraham Lincoln suspended in the Civil War," "Oh, that's right. Okay," Isobel notes, and continues to read and comment on the text: "The privilege of writ of habeas corpus shall not be suspended, unless in cases of rebellion, invasion, or if public safety may require it. So the law would fit the Civil War, you know?" The two work head-to-head over the notes they are making together, starting and finishing each other's thoughts as they work through the meaning of this sentence, literally thinking collaboratively aloud.

Another pair has also come across habeas corpus and is working to clarify their understanding of the term. Mary Cruz jumps in, "Suspend habeas corpus without extreme cause. So it's really up to them," she continues, "it's not . . ." "It's up to the executive branch," Heather interjects. "I think Lincoln got it passed by law. No, he did it by executive order, didn't he? I don't know how he did that. It's probably somewhere in the next article."

In another small group, Anna is reading and thinking aloud, "We didn't go after them before for any specific reason. It was once they bombed Pearl Harbor, we went, 'Ah! Japanese!' " "Yeah," her two partners agree. She continues, "And so we put them in internment camps. And it was after the fact, so it was ex post facto, after the fact."

In a group of three girls, who are also working through their understanding of Article I, Section 9, Chanese reads aloud, "No bill of attainder or ex post facto law shall be passed." Suzé translates this phrase into her own words, "You can't make up new rules in order to jail someone." Immediately Ariel pipes up, "I don't understand that one at all!" Her partners turn to her to explain. Chanese says, "Like, okay, somebody did something and you want to convict that person, so you make up a law specifically to jail that person. You can't do that." The explanation helps: "Oh, okay," Ariel nods. "So it's ex post facto, like after the fact." "That's true!" Suzé adds. "Ex post facto. A law cannot be enforced if created after the crime was committed. . . ." "If created 'post' the crime date," Ariel announces.

As students work, Gayle moves through the room, listening to pairs and stopping to probe student thinking. "What do you make of that dual citizenship thing?" she inquires. After students work for several minutes, Gayle calls the class together to share and solve reading comprehension problems. "I'm hearing lots of good thinking and reading, close reading, which is wonderful. And you are using all you know to make sense of this, which is a somewhat challenging document, yes? What problems are you coming up against, and what are you finding to solve those problems? How are you solving them?"

Sam refers to Article I, Section 9, Number 3, and relates a textbook subhead to the ex post facto law. "We were looking at the title of that specific number, 'Unfair Punishments,' " he says, "so we're thinking that that's what it was referring to." In response, Gayle focuses on the reading strategy Sam described, naming it to make it metacognitively and memorable: "So you are using a text clue there to understand a little series of words that you don't understand, that you haven't heard before. What other things?"

"Jeanie," Gayle says, "I saw you doing something to solve a problem. I think you were looking at habeas corpus.

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tom.” Gayle is pleased to reinforce a historical text structure her students are using, “So you found some footnotes. Yay, footnotes!”

She continues to draw from the pairs to enrich the understanding and potential strategic repertoire of the entire class: “In this group, you spent a long time, I believe, on the ‘elastic clause,’ right? . . . Article I, Section 8, number 18?” Laura describes the problem she and her partner were having and tells how they tackled the reading: “Oh, the wording. The wording was rather odd. And we didn’t even know ‘the foregoing powers’ and it was confusing. We tried to deal with it in sentences. We went up to ‘foregoing powers’ and tried to figure out what it meant. And then we took the second part.” Gayle reframes the strategy for the class, “I’m seeing it’s really one long sentence, and you broke it up into phrases and tried to see if you could make sense of phrases and stick it all back together again and see if you could figure it out that way.”

Gayle’s monitoring of students’ reading as they think aloud with partners to surface and solve comprehension problems is strategic. She is helping students build a repertoire of strategies for this kind of rigorous work with text, punctuating students’ sustained work with metacognitive conversations (Schoenbach, Greenleaf, Cziko, & Hurwitz, 1999) and discussions of the text. “Shall we move on?” she says. “Back to the text.”

Gayle’s students continue working their way through the Constitution, thinking aloud and summarizing. Toward the end of the period, Gayle again draws the class together. “I want to pull you back together. Partly I want to say that you’re doing really hard work. And the conversations are wonderful that you’re having, really trying to understand what this really dense document has to say, . . . As you are going through this—and I know some of you were looking at the Amendments and others haven’t gotten that far—what is occurring to you about the relevancy of all of this to the relocation camps? What’s come to mind?”

Student responses foreshadow the analysis they will do of the Supreme Court decision. They raise questions about treason by association with blood relatives or nationality. “Doesn’t the internment of a whole group of people of the same national origin violate this clause?” someone asks. They note that the Constitution says that you cannot be charged with treason unless there are two testimonies against you or you have confessed, yet the Japanese, they note, were “just taken into the concentration camps.” Was there adequate evidence that they were guilty of treason?

The class ends with Gayle asking students to finish summarizing the Articles of the Constitution in preparation for their reading of the arguments in the Korematsu Supreme Court case. The homework will be done independently, but Gayle warns students to be ready to share their summaries with a partner the next day. She offers as well a more intrinsically motivating reason for completing the summaries, explaining, “I don’t think you’re going to follow the arguments really explicitly unless you discipline yourself to do that.” In class the next day, students write abstracts of the majority and dissenting opinions in Korematsu v. United States to help them analyze which was the stronger argument and why. Following a class discussion of the strength of these two arguments, students write individually to this prompt: “If you had been on the Supreme Court in 1944, which opinion would you have signed, and why? If neither represents your views, you are welcome to write your own opinion.”

The engagement of students in making sense of this set of challenging texts is noteworthy. It is clear, as they work, that they not only analyze the implications of the Constitution for decision making in a historically salient case, but that they also care about the complex balance of national security and civil rights and the impact of court decisions on the lives of U.S. citizens. In this class, Gayle has moved students past perfunctory responses to assigned reading into new engaged stances. They are building skills for academic reading: summarizing, paraphrasing, questioning, breaking down complex sentences and paragraphs to clarify meaning, analyzing word parts, and using context to support their understanding of unfamiliar words. Students work collaboratively in what has become for them the routine, ongoing work of making sense of complex texts and ideas.

As the students in this class work through their understanding of the Articles of the Constitution, they are taking responsibility...
for their own learning rather than taking notes from a teacher’s lecture or written blackboard notes. They are learning to read a foundational historical document in U.S. history very closely—they know that not every document will need to be read with this level of attention, but that in order to engage in the coming discussions about the Supreme Court Korematsu decision, they will need to know and understand the exact language that the justices will use in making their arguments. As they spend sustained effort and time working through difficult terms, they are also developing the disposition to persist until they have clear enough working understandings to proceed.

At the same time, these students are learning to think historically, examining sources, cross-referencing documents to make intertextual connections, exploring the applicability of documents to specific historical circumstances, analyzing arguments and counterarguments to weigh their strengths and merits, and engaging in critical and evidence-based thinking: What is missing from this account? Whose voice is represented? Whose is missing? What is the specific evidence that the Japanese were engaged in espionage?

Among the dispositions they are developing in reading historical texts, these and other students who practice engaged academic literacy are learning what is perhaps the most important lesson of all: I can think about these things. I can have a voice.

CONCLUSION

In Will Brown’s and Gayle Cribbs’s classrooms, we see ways in which each teacher brings students’ questions and insights into use as a classroomwide resource. In these classrooms, conversation is the central dynamic: Teacher and students discuss the cognitive strategies they use to solve comprehension problems, the structure and language of particular types of texts, and the kinds of knowledge required to make sense of reading materials. Through talk, members of a classroom community naturally make their thinking visible to one another and thereby available for reflection, reappraisal, and appropriation by others.

As we noted in beginning this chapter, teachers send students messages about the nature of academic literacy and about their role as students through the tasks assigned to them in subject-area classes. These messages and tasks shape students’ beliefs about what counts as academic learning, as well as their capacities to do rigorous discipline-based work. Rather than seeing learning chemistry as merely a process of memorizing formulas, Will’s students are investigating questions that come from their efforts to make sense of challenging chemistry texts. Rather than calculating around where the answer (to the red square question) should be, as Rosa describes her experience in the beginning of the chapter, Gayle’s students are grappling with complex questions across multiple texts. They have internalized the disposition to see themselves as participants in, and contributors to, a discussion of legal and ethical questions in history. With support for their developing dispositions for engaged academic literacy in specific disciplines, these students are consolidating changes in identity, capacity, and knowledge and are stepping into new roles as learners.

REFERENCES


