Engaged Academic Literacy for All

Usually, in a regular history class, the teacher would say, “Read from page so-and-so to so-and-so, answer the red-square questions and the unit questions, and turn them in.” And it wasn’t like you had to read it... If the red-square question was here, you knew the answer was somewhere around that area right there. 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.

—Rosa, grade 9 student

Most teachers, if I talk to them, they’ll be like, “What, are you serious—this is college, you’re asking me how to read? I can’t help you. You should have learned that in eighth grade.”

—Kalif, community college student

AS A NATION and as educators, what do we expect of our middle school, high school, and college students? What messages do we send students about their academic abilities and promise? If we believe that all students should be able to think and read critically, to write and talk knowledgeably about historical, literary, scientific, or mathematical questions, we need to provide richer learning opportunities than the “red-square question” routine that Rosa describes. We need to better prepare and support students like Kalif.

This book presents an approach to improving students’ ability to read critically and to write about and discuss texts in a range of disciplines—an approach that builds their academic literacy. The framework for this approach, Reading Apprenticeship, starts from the premise that engaging students like Rosa and her peers affectively as well as intellectually is key to developing the dispositions and skills required for becoming confident, critical, and independent readers and thinkers.

Like Kalif, many students feel overwhelmed by the high level of literacy expected of them in college courses. Standards for high-level literacy, such as those embodied in the Common Core State Standards for K–12 students or in
the “gatekeeper” exams that determine college admission and placement, out-
pace many students’ preparation. Teachers feel similarly overwhelmed by the
distance between these ambitious literacy goals and their students’ experience
engaging with academic texts. When students are unaccustomed to carrying
out rigorous literacy tasks, it is a daunting prospect for teachers to find new
ways to engage them in the satisfaction of unlocking texts and the learning it
makes possible.

Many educators express the belief that students who struggle with aca-
demic texts “just aren’t motivated.” Yet we see ample evidence that by helping
students find their own reasons and entry points for reading challenging texts,
we can support them in developing both their affective and their intellectual
engagement with academic texts. When a teacher at a high-poverty high school
with a majority of English learners tells us her students are “suddenly finding
that the economics textbook is more interesting,” and they are eager to read and
discuss the ideas in it, it seems clear that the students rather than the text have
changed. By learning to work through challenging passages and to collabora-
tively make sense of them, these students have developed a different affective
relationship with the text and with economics concepts they previously found
“unengaging.”

Our work over the years with thousands of middle school, high school,
college, and pre-service teachers has been the subject of multiple research stud-
ies demonstrating that teachers can successfully apprentice their students into
becoming readers of academic texts. When teachers listen closely to students’
thinking, probe their thinking respectfully, and help students listen to and
probe each other’s thinking about texts, classrooms can become lively centers of
discussion about how, as well as what, students are reading. In such classrooms,
students begin to see themselves differently and to feel more empowered as
readers and thinkers. Time and again, this change in students’ sense of them-
selves as readers and learners—their academic and reader identity—results in
striking changes in how they engage and comprehend a wide range of aca-
demic texts.

What we have learned from teachers and students is consonant with a deep
reservoir of knowledge developed by scholars in the areas of cognitive sci-
ence and sociocultural learning theory; psychological research on motivation,
engagement, achievement, and identity; and educational research on pedagogy
and disciplinary literacy in core subject areas.

The Reading Apprenticeship instructional framework presented in this
book combines this scholarly research with practitioner experience. This frame-
work, described in Chapter Two, is not a program or a curriculum that teachers
or schools “adopt.” It is an organizing paradigm for subject area teaching, one
that enables students to approach challenging academic texts more strategi-
cally, confidently, and successfully.

The Context for Change

Reading, and its role in promoting achievement, is fundamentally an equity issue.
—William Loyd, district literacy coordinator,
addressing superintendents of the
Washtenaw, Michigan, intermediate school district

Secondary and post-secondary education in the United States reflects a
society that does not equitably educate people living in poverty, members of
racial and ethnic minorities, those whose first language is not English, and
those whose learning differences call for special education services. Problems
of inequitable opportunity and outcomes do not originate in schools and can-
not be addressed through schooling alone. However, strong evidence suggests
that schools can either reinforce these inequities or, like the schools in the
Washtenaw district and others, push against them.\textsuperscript{2} The following look at
the state of literacy in secondary school, college, and beyond makes clear the
extent of the problem.

Literacy in Middle and High School

According to the National Assessment of Educational Progress (NAEP), two-
thirds of U.S. high school students are unable to read and comprehend com-
plex academic materials, think critically about texts, synthesize information
from multiple sources, or communicate clearly what they have learned. Only a
small minority of eighth and twelfth graders read at an advanced level. Many
high-needs students have been demoralized by years of academic failure and
do not see themselves as readers or as capable learners. Achievement gaps are
stubbornly persistent along racial, ethnic, and socioeconomic lines. By some
estimates, half of the incoming ninth graders in a typical high-poverty urban
high school read two or three years below grade level.\textsuperscript{3}

The traditional response to low literacy achievement has been to take a
remedial approach to addressing skill deficits. At the middle and high school
levels, low-achieving students are often required to take several remedial
classes a day. Yet research has shown that isolated, skills-based instruction in
reading may perpetuate low literacy achievement rather than accelerate literacy
growth.\textsuperscript{4} At the same time, a renewed policy focus on “college and career readi-
ness” driven by concerns about global competitiveness has highlighted the
importance of increasing the number of students who can read critically and
make sense of complex texts.
As awareness of literacy needs in secondary school and college has grown, an increasing number of research and policy documents are highlighting the importance of a more integrated and student-centered approach to building literacy—one that addresses both academic rigor and academic engagement. Recent literacy research has identified the instructional characteristics necessary to meet the unique needs of low-achieving adolescents: treat all students as capable learners, create a collaborative climate of inquiry, build on students’ interests and curiosity, tap into students’ knowledge and experience, and harness their preference for social interaction to serve academic goals.

However, policies instituted in accordance with the No Child Left Behind act run counter to these research findings. Narrow compliance measures typical of No Child Left Behind continue to push schools to use remedial curricula, pacing guides, and test preparation to produce “adequate yearly progress” (AYP) on state standardized tests. Schools serving the least-well-prepared students are the most constrained by test-score pressures, but high-stakes tests push teachers everywhere to promote the rote learning practices—Rosa’s “red-square questions”—that have long characterized teaching in U.S. secondary schools.

Low academic literacy is by no means an issue only for underperforming students. Even among students who do relatively well in class and score reasonably well on standardized tests, teachers can point to those who have difficulty comprehending and interpreting class texts, who fail to complete reading assignments, and who seem unlikely to become independent, lifelong readers. “You can’t rely on the students to read,” explains one high school teacher. “They will engage in projects, but they don’t seem to read or understand the source materials or texts.”

The momentum behind the Common Core State Standards and the accompanying development of more sophisticated literacy assessments offer hope that richer literacy learning across subject areas may become a goal against which students, schools, and teachers measure themselves and are measured by others. These new standards and assessments can also provide direction for teachers’ professional learning, if they are accompanied by sustained support for teachers to develop knowledge and skills for embedding advanced literacy practices into their subject area teaching. Otherwise, the inequalities these standards and assessments have the potential to address may merely be replicated.

Literacy in College and the Workplace

Without substantial improvement in advanced literacy proficiencies such as those identified by NAEP, students will be unable to handle the quantity and complexity of assigned reading in college. They are likely to struggle in the
workforce as well; even for entry-level jobs, the ability to read, write, and think critically is increasingly a minimum requirement. At issue are the competencies that allow or limit full participation in our increasingly complex and diverse society.

Students enroll in college with the expectation that this continued education will help prepare them for more satisfying futures. In the United States, 44 percent enroll in a community college, either as a gateway to further education or with the goal of earning an associate degree or technical license. However, between 70 and 90 percent of these entering students are placed in remedial, or developmental, English language arts or mathematics classes, or both. Success rates in these classes vary, but campuses that have tracked the progress of students who enroll in lower-level developmental courses find that only a small number of them (usually around 10 percent) ever make it to credit-bearing or transfer-level courses. Many, if not all, of these students are weak in the essential academic skills related to high-level literacy.

In community college classes more generally, faculty report that students in credit-bearing classes ranging from geology to anesthesia technology also struggle with literacy. Many students seem unable to read and understand the course texts independently and rely instead on lecture notes. These same students are likely to become the future employees who have difficulty working either in teams or independently with complex instructions, open-ended problems, and multiple texts.

Community colleges are not alone in facing this challenge. Recent reports point to a dismaying literacy problem in four-year colleges as well: close to 50 percent of entering students are not prepared for the literacy tasks expected of them.

**The Literacy Ceiling**

When students have difficulty reading and understanding subject area texts, they hit a “literacy ceiling” that limits what they can achieve both in the classroom and in their lives outside of school. Naturally, the literacy ceiling also limits what teachers can achieve in their classrooms. To the degree that students cannot independently access the knowledge and information embedded in their books and other curriculum materials, teachers try to find alternative ways to help them “get the content.”

Middle school, high school, and college teachers often express frustration with students’ limited academic literacy preparation, sometimes asking, “Why didn’t somebody do a better job earlier of preparing these students to read what they need to read to succeed at this grade level?” Others express a sense of inadequacy and bewilderment: “What am I supposed to do when they can barely
get through a page in the textbook on their own? I’m a subject area teacher, not a reading teacher!” Perhaps most disconcerting is the resignation of teachers who conclude, “It’s too late for these students to catch up.”

Teachers are not the only ones worried about the literacy ceiling. Students have an even more immediate and personal cause for concern. Many find reading mystifying. Faced daily with the difficulty of making sense of unfamiliar texts and literacy tasks, they have come to believe that they are “just not cut out” to be readers. With a mounting sense of exasperation, they “read” the words but cannot begin to make sense of sentences, paragraphs, and longer texts.

Students respond to their reading difficulties in a variety of ways, often avoiding a reading task entirely and waiting instead for a teacher to tell them what they need to know. Some students attempt invisibility, silently sliding lower in their seats in hopes they will not be called on. Others act out in class, creating distractions when they fear their errors or inadequacies might otherwise be exposed. Still others adopt a stance that clearly says, “I don’t care about any of this school stuff at all.” The most dedicated among them—or, perhaps, simply those with the most stamina—struggle through each new text in a painful, word-by-word attempt to string meaning together. None of these responses, of course, provides a way to break through the ceiling restricting them from higher-level learning.

“Solutions” That Don’t Solve the Problem

I knew that just telling them to reread the essay or to summarize the main points wasn’t enough.

—Walter Masuda, community college English 1A professor

When students are unprepared for the academic literacy demands in their courses, many teachers, like Walter Masuda, feel frustrated by their own unsatisfying “solutions” for helping them, or find themselves turning to a handful of defaults that serve only to postpone or compound students’ problems. For the lowest-testing students, remediation interventions that reteach at the most basic level or packaged programs that drill students in discrete skills may be called upon. More generally, teachers may try to teach “around” the text altogether with lectures and PowerPoint presentations, or they may try to “protect” students from dry or difficult texts with alternatives that never challenge them or help them grow as readers and learners.

Instead, as Walter came to understand, effective academic literacy instruction for all levels of students must involve them in practicing higher-level thinking with complex texts precisely so that they can further develop those abilities:
Excerpt from Chapter 2 —
The Reading Apprenticeship Framework
from Reading for Understanding: How Reading Apprenticeship Improves Disciplinary Learning in Secondary and College Classrooms, 2nd Edition
Ruth Schoenbach, Cynthia Greenleaf, and Lynn Murphy

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The Reading Apprenticeship Framework

At the beginning of the year, a lot of students didn’t understand. “Why are we doing all this reading stuff in science? I don’t get it. It’s science. It’s not reading.” And I tried to explain to them, “Well, reading is the most important thing you can do, no matter what subject area it is. If you can’t read and understand, you’re going to struggle.”

—Heather Howlett, grade 8 science teacher

THE CONCEPTIONS educators hold about the nature of reading naturally shape their approaches to helping students improve their reading abilities. As we noted in Chapter One, some current approaches to supporting students’ reading improvement address word-level reading problems as a precondition for working on advanced literacy proficiencies. The Reading Apprenticeship approach takes a different route toward building high-level literacy because our understanding of the nature of reading and the capacity of adolescent and adult learners is different. For example, the students in Heather Howlett’s science classes will learn academic reading along with science precisely because that is the most powerful way to learn.

We first present a brief summary of what we have learned about reading from existing research and our own observations and studies.

What Is Reading?

Reading is not just a basic skill. Many people think of reading as a skill that is taught once and for all in the first few years of school. In this view of reading, the credit (or blame) for students’ reading ability goes to primary grade teachers, and subsequent teachers or college instructors need teach only new vocabulary and concepts relevant to new content. Seen this way, reading is a simple process: readers decode (figure out how to pronounce) each word in a text and then automatically comprehend the meaning of the words, as they do with their everyday spoken language.

This is not our understanding of reading.
About Reading

The need to continue to teach reading as students move up the grade levels and encounter increasingly complex academic material and tasks is now widely recognized. Box 2.1 lists important understandings about reading that are described in the sections that follow.

**BOX 2.1**

**About Reading**

Students often confuse reading with saying the words on a page. Reading is actually a complex problem-solving process that readers can learn. The following characteristics of reading are described in this section:

- Reading is a complex process.
- Reading is problem solving.
- Fluent reading is not the same as decoding.
- Reading proficiency varies with situation and experience.
- Proficient readers share some key characteristics.

**Reading Is a Complex Process**

Think for a moment about the last thing you read. A student essay? A school bulletin? A newspaper analysis of rising conflict in another part of the world? A report on water quality in your community? A novel? If you could recapture your mental processing, you would notice that you read with reference to a particular world of knowledge and experience related to the text. The text evoked voices, memories, knowledge, and experiences from other times and places—some long dormant, some more immediate. If you were reading complex text about complex ideas or an unfamiliar type of text, you were working to understand it. Your reading was most likely characterized by many false starts and much backtracking. You were probably trying to relate it to your existing knowledge and understanding. You might have stumbled over unfamiliar words and found yourself trying to interpret them from the context. And you might have found yourself having an internal conversation with the author, silently agreeing or disagreeing with what you read.

As experienced readers read, they begin to generate a mental representation, or gist, of the text, which serves as an evolving framework for understanding subsequent parts of the text. As they read further, they test this evolving
meaning and monitor their understanding, paying attention to inconsistencies that arise as they interact with the text. If they notice that they are losing the meaning as they read, they draw on a variety of strategies to readjust their understandings. They come to texts with purposes that guide their reading, taking a stance toward the text and responding to the ideas that take shape in the conversation between the text and the self.¹

While reading a newspaper analysis of global hostilities, for example, you may silently argue with its presentation of “facts,” question the assertions of the writer, and find yourself revisiting heated debates with friends over U.S. foreign policy. You may picture events televised during earlier wars. Lost in your recollections, you may find that even though your eyes have scanned several paragraphs, you have taken nothing in, so you reread these passages, this time focusing on analysis.

**Reading Is Problem Solving**

Reading is not a straightforward process of lifting the words off the page. It is a complex process of problem solving in which the reader works to make sense of a text not just from the words and sentences on the page but also from the ideas, memories, and knowledge evoked by those words and sentences. Although at first glance reading may seem to be passive, solitary, and simple, it is in truth active, populated by a rich mix of voices and views—those of the author, of the reader, and of others the reader has heard, read about, and otherwise encountered throughout life.

**Fluent Reading Is Not the Same as Decoding**

Skillful reading does require readers to carry out certain tasks in a fairly automatic manner. Decoding skills—quick word recognition and ready knowledge of relevant vocabulary, for example—are important to successful reading. However, they are by no means sufficient, especially when texts are complex or otherwise challenging.

Yet many discussions about struggling readers confuse decoding with fluency. Fluency derives from the reader’s ability not just to decode or identify individual words but also to quickly process larger language units.² In our inquiries into reading—our own and that of our students—we have seen that fluency, like other dimensions of reading, varies according to the text at hand. When readers are unfamiliar with the particular language structures and features of a text, their language-processing ability breaks down. This means, for example, that teachers cannot assume that students who fluently read narrative or literary texts will be equally fluent with informational texts or primary source documents.
Fluency begins to develop when students have frequent opportunities to read texts that are accessible for them because the vocabulary, the concepts, or both are reasonably familiar. English learners rapidly gain new English vocabulary when reading about familiar situations in the new language. Similarly, readers with dyslexia can tackle complex texts about topics in which they are avidly interested and about which they are knowledgeable. Multiple rereadings of more difficult, less accessible texts help broaden a reader’s fluency—as can, perhaps surprisingly, slowing down by chunking a text into smaller units. Of even more importance, fluency grows as readers have opportunities, support, and encouragement to read a wide range of text types about a wide range of topics.

**Reading Proficiency Varies with Situation and Experience**

Literacy practices—how one engages with text, the type of texts read, the outcomes expected—are shaped by social purposes. As we move from one social situation to another, we learn varied ways of reading and distinct literacy practices linked to specific social activities. Moreover, our experiences vary from one person to another. A person who understands one type of text is not necessarily proficient at reading all types. An experienced reader of mathematical proofs may be perplexed when asked to make sense of a metaphor in a poem. A nursing student may be able to decipher the meanings conveyed by complex anatomical diagrams but feel completely at sea when trying to read a legal brief. A good reader of a motorcycle repair manual can make sense of directions that might stump an English literature professor, but she may be unable to comprehend her son’s chemistry text. And a chemistry teacher may feel completely insecure when trying to understand some of the primary sources on a history colleague’s course reading list.

In other words, reading is influenced by situational factors, among them the experiences readers have had with particular kinds of texts and reading for particular purposes. And just as so-called good or proficient readers do not necessarily read all texts with equal ease or success, a so-called poor or struggling reader will not necessarily have a hard time with all texts. That said, researchers do know some things about those readers who are more consistently effective across a broad range of texts and text types.

**Proficient Readers Share Some Key Characteristics**

Different reading researchers emphasize different characteristics of good or proficient readers. However, widespread agreement has emerged in the form of a set of key habits (see Box 2.2).³
The following key habits of good readers are widely recognized by literacy researchers.

**Good readers are**

- Mentally engaged
- Motivated to read and to learn
- Persistent in the face of challenge
- Socially active around reading tasks
- Strategic in monitoring the interactive processes that assist comprehension:
  - Setting goals that shape their reading processes
  - Monitoring their emerging understanding of texts
  - Reasoning with texts in valued and discipline-specific ways
  - Coordinating a variety of comprehension strategies to control the reading process

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**Social Support for Learning**

Our apprenticeship approach to teaching reading in subject area classes is grounded in our view of learning as a social-cognitive interactive process. In this view, which is based in the work of Russian psychologist L. S. Vygotsky, cognitive development is seen as “socially mediated”—that is to say, people learn by participating in activities with “more competent others” who provide support for the parts of the task that they cannot yet do by themselves. These more competent others—parents, siblings, peers, and teachers, for example—gauge their support of the learner’s participation, encouraging the learner to take on more of the task over time. In doing this—often unconsciously or spontaneously—these guides help learners carry out valued activities (talking, cooking, playing ball, reading) with increasing independence over time. (“Scaffolding” is a term often applied to this careful gauging of “enough” support, but not too much, at the “right” time, but for not too long.)

The learning environment created by these more knowledgeable others in collaboration with learners during activities like reading or puzzle solving both supports learners and challenges them to grow. Learners begin to internalize and appropriate (make their own) the varied dimensions of the activity: for instance, its goals and functions, the actions necessary to carry it out, and the kinds of cultural tools necessary or fitting to the task. Through this social
learning process, learners’ cognitive and affective structures—the ways in which learners think and value tasks—are shaped.4

Cognitive Apprenticeships

This view of socially mediated learning applies not only to activities with observable components, such as changing bicycle tires, knitting, or skating. It applies equally, and significantly, to activities that are largely cognitive, taking place inside the mind and hidden from view. Researchers working in a social-cognitive tradition have described a variety of cognitive apprenticeships, in which the mental activities characteristic of certain kinds of cognitive tasks—such as computation, written composition, interpreting texts, and the like—are internalized and appropriated by learners through social supports of various kinds.5 Learning to read academically complex material is yet another task that requires a cognitive apprenticeship.

Reading Apprenticeships

One literacy educator describes the idea of the cognitive apprenticeship in reading by comparing the process of learning to read with that of learning to ride a bike. In both cases a more proficient other is present to support the beginner, engaging the beginner in the activity and calling attention to often overlooked or hidden strategies.6 From the beginning, reading apprentices must be engaged in the whole process of problem solving to make sense of written texts, even if they are initially unable to carry out on their own all the individual strategies and subtasks that go into successful reading. The hidden, cognitive dimensions in particular must be drawn out and made visible to the learner.7 For students encountering challenging academic materials and tasks, being shown what goes on behind the curtain of expert reading is especially powerful in helping them gain mastery.

Demystifying Reading: Making the Invisible Visible

If students are to employ increasingly sophisticated ways of thinking and of solving a variety of cognitive problems, they need to interact with more knowledgeable others from whom they can learn how to carry out these complex activities. Much of what happens with texts in classrooms gives students the mistaken impression that reading comprehension happens by magic. To begin to build a repertoire of activities for reading comprehension, students need to have the reading process demystified. They need to see what happens inside
the mind of a more proficient reader, someone who is willing to make the invisible visible by externalizing his or her mental activity.

**Text-Based Discussion: Collaborative Meaning Making**

Making the invisible processes of strategic sense-making visible to the learner must take place during reading itself. For students to approach reading expecting to comprehend what they read, and so to work to comprehend texts as necessary, they must experience reading as an inquiry into meaning and a purposeful engagement with ideas. Very little authentic discussion takes place in typical classrooms, yet for all students and particularly for English learners, talking with others is a powerful way to work out one’s ideas and articulate them. Text-based discussion helps readers clarify what seems clouded as well as critically question the ideas in a text. In discussions among readers, different viewpoints arise, and the diverse resources that exist among different students can help them in tackling a problem or engaging a set of ideas. To build a repertoire of text-based problem-solving strategies and stamina for thinking deeply about the meaning of what they read, students need abundant experiences of working to comprehend text in the company of others. They need ongoing opportunities to consider and reconsider—through text-based discussion—what texts may mean and how they know what they mean.

**Developing Engaged, Strategic, and Independent Readers**

In short, our approach to teaching literacy skills is based on the idea that the complex habits and activities of skillful academic readers can be taught. But we do not believe they can be taught by a transmission approach—in which students are shown strategies, asked to practice them, and then expected to be able to use them on their own. Rather, we see the kind of teaching and learning environment that can develop students’ confidence and competence as readers of various kinds of challenging texts as one that requires the interaction of students and teachers in multiple dimensions of classroom life. It is the orchestration of this interactive teaching and learning environment in classrooms that we call the Reading Apprenticeship approach to developing strategic readers.

In the rest of this chapter we briefly present the multiple dimensions of classroom teaching and learning that make up the Reading Apprenticeship instructional framework, giving an overview of students’ learning opportunities in Reading Apprenticeship classrooms.
Dimensions of the Reading Apprenticeship Classroom and Framework

The following model describes the four key dimensions of classroom life that are necessary to support reading development:

- **Social Dimension**: Community building in the classroom, including recognizing the resources brought by each member and developing a safe environment for students to be open about their reading difficulties.

- **Personal Dimension**: Developing students’ identities and self-awareness as readers, as well as their purposes for reading and goals for reading improvement.

- **Cognitive Dimension**: Developing readers’ mental processes, including their problem-solving strategies.

- **Knowledge-Building Dimension**: Identifying and expanding the kinds of knowledge that readers bring to a text and further develop through interaction with that text.

These dimensions exist in the context of extensive reading and share the reading practice of internal and external metacognitive conversation (see Box 2.3).

**Extensive Reading as the Context for Reading Apprenticeship**

Surrounding the social, personal, cognitive, and knowledge-building dimensions of classroom life is reading itself. Teachers extend students’ reading experiences and opportunities, making it a key enterprise of their instruction to talk together about making meaning with academic materials. When reading and collaborative work with texts becomes a key part of academic learning in the classroom, teachers provide support for students to grow as readers. Texts and talk about texts infuse the learning that students engage in and provide the context for their ongoing reading apprenticeship. Providing more focus on reading and talk about reading during classroom lessons gives teachers the opportunity to mentor students in the reasoning and problem-solving skills they need to master. More reading, more text-focused discussion, and more talk about reading and problem-solving processes—these distinguish Reading Apprenticeship classrooms from content area classes in which students are expected, but not taught, to handle complex reading tasks.

**Metacognitive Conversation at the Center**

At the center of the Reading Apprenticeship approach, and linking the four dimensions of classroom life, is an ongoing conversation in which teacher
and students think about and discuss their personal relationships to reading, the social environment and resources of the classroom, their cognitive activity, and the kinds of knowledge required to make sense of text. This metacognitive conversation is carried on both internally, as teacher and students individually read and consider their own mental processes, and externally, as they talk
about their reading processes, strategies, knowledge resources, and motivations and their interactions with and affective responses to texts.

Metacognition, simply put, is thinking about thinking. As one researcher defines it, “Metacognition refers to one’s knowledge concerning one’s own cognitive process and products or anything related to them.”¹⁰ In metacognitive conversation, then, participants become consciously aware of their mental activity and are able to describe it and discuss it with others. Such conversation enables teachers to make their invisible cognitive activity visible and enables teachers and students to reflectively analyze and assess the impact of their thinking processes. A great deal of research in the past several decades has identified metacognition as key to deep learning and flexible use of knowledge and skills.¹¹

Through metacognition, apprentice readers begin to become aware of their reading processes and, indeed, that there are reading processes. Through many means—class discussions between teachers and students, small group conversations, written private reflections and logs, personal letters to the teacher or even to authors or characters in books—students can begin to know, use, and further develop their own minds.

Routine metacognitive conversation supports students, including English learners and students with learning differences, to develop greater proficiency in all four of the language domains: reading, writing, speaking, and listening. Students read complex texts with instructional support accompanied by ample discussion to share their thinking and problem solving and to hear the thinking and problem solving of others. They write to describe their thinking processes, to interact with texts, and to reflect on their learning.

In metacognitive conversation, students build vocabulary by using the academic language of the text as they work collaboratively with their peers to solve comprehension difficulties. They listen to and appropriate the language of their teacher and peers through frequent peer, small group, and class discussion. Students are supported to learn academic discourse, using conventions of civil exchange and academic language to respond to the ideas of their classmates.

Metacognitive conversation naturally spills into collaborative meaning making and text-based discussion as students grapple with complex academic texts. But it is central to Reading Apprenticeship that the discussion is always metacognitive—a conversation about not only what texts mean but also how you know what they mean.

Such conversations and reflections, if they become routine, offer students ongoing opportunities to consider what they are doing as they read—how they are trying to make sense of texts and how well their strategies are working.
for them. Internal and external conversations about reading processes and the relationships they make possible between and among teachers and students are key to the Reading Apprenticeship approach.

Each dimension of classroom life—the social, personal, cognitive, and knowledge-building—has its own metacognitive component, as described in the following sections.

**The Social Dimension**

Establishing a Reading Apprenticeship classroom begins with the work of nurturing a social environment in which students can begin to reveal their understandings and their struggles as well as to see other students, and their teacher, as potential resources for learning.

**Creating Safety**

To begin developing the social dimension of the classroom, teachers work with students to create a sense that they are part of a safe community of readers. Developing this sense of safety is fundamental to the activity of investigating reading. To help students become more active and strategic readers, we need to hear from the students themselves about what is going on in their minds while they are reading. Therefore, they must feel comfortable expressing points of confusion, disagreement, and even disengagement with texts. They need to feel safe enough to talk about where they got lost in a text, what was confusing, what they ordinarily do when they have these kinds of comprehension problems, and how well these strategies work for them.

Some students may be embarrassed by reading comprehension difficulties, believing these difficulties mean they are not as skilled at reading as they should be. Making it safe for students to discuss reading difficulties mitigates students’ potential embarrassment. The following classroom activities help establish a safe culture for students to take on the role of reading apprentices:

- Discuss what makes it safe or unsafe for students to ask questions or show their confusion in class.
- Agree on classroom rules for discussion so that all students can share their ideas and confusions without being made to feel stupid.
- Discuss what makes it safe or unsafe for students to engage in classroom learning.
- Agree on classroom norms that allow all students to engage in learning without being made to feel uncool.
Investigating the Relationship Between Literacy and Power

Motivation to read and to work on improving reading is affected by myriad factors, including the ways instruction builds on learners’ out-of-school identities and literacies and leverages their interests and desires to learn, do, and communicate. Students’ understanding of the likelihood of success and of learning itself mediates how much effort they will expend on learning tasks—that is, it influences their motivation. Motivation is also intimately related to students’ cultural and peer group identity as well as their prior experiences in school.\textsuperscript{12}

The degree to which students see doing well academically as a means of gaining status with their peers can vary. For some students, there may be a stigma attached to reading better than others in their social group. For others, school uses of literacy seem far away from the literacy practices they value. Students who are underprepared academically for the challenge of academic literacy are often perceived as resistant to learning when they are actually aspiring to achieve. For many students, experiences in academic settings have not offered the kinds of learning opportunities they need to see how purposeful engagement with academic literacy may affect their future ambitions. Engaging students in asking questions about reading (and literacy) and its relationship to academic, economic, political, and cultural power has the potential to reframe reading as a more valued activity. The following classroom activities help position reading as a universal value:

- Investigate and talk about the people who read in our society, what they read, why they read, and how reading affects their lives.
- Investigate and talk about the people who do not read in our society and how not reading affects their lives.
- Read and talk about the role played by lack of literacy in the historical disenfranchisement of particular groups of people in society.
- Talk about the relationships between literacy and power of various kinds, including academic, economic, political, and cultural.

Sharing Text Talk

Particularly when students resist engagement in reading because they have devalued it, have had little experience reading, or are embarrassed by their relative reading competence, sharing books and other texts on topics that appeal to young people is an important way of generating interest in reading. Intrinsic motivation to read can flourish in a classroom where everyone has a chance to talk about and hear about each other’s interesting or important reading experiences; for example:
• Share the texts that teachers and classmates have found exciting, fun, interesting, or important.
• Share the ways in which teachers and classmates choose books they will both enjoy and be able to finish as recreational reading.
• Share teachers’ and classmates’ responses to the ideas, events, and language of texts.

Sharing Reading Processes, Problems, and Solutions
Teachers and students must build a sense of collaborative and respectful inquiry into each other’s reading processes. This is key to establishing the conditions for successful reading apprenticeships. Once students are safe to engage in classroom reading activities and share their reading processes and difficulties, the classroom community of readers can offer its members crucial resources in the diversity and breadth of interpretations, experiences, and perspectives that different readers bring to different texts. Activities in which students have access to a variety of social resources for dealing with reading comprehension problems are another way to establish and maintain the social dimension of a Reading Apprenticeship classroom; for example:

• Talk about what is confusing in texts.
• Share how teachers and students deal with comprehension problems as they come up in class texts.
• Participate in whole- or small-group problem-solving discussions to make sense of difficult texts.

Noticing and Appropriating Others’ Ways of Reading
Students possess a variety of strengths, including diverse background knowledge and experiences. Each student can have times when he or she becomes the more knowledgeable other, helping peers gain comprehension of particular texts and acquire strategies and knowledge for the comprehension of a range of texts.

Teachers act as expert resources for reading strategies, disciplinary reasoning, relevant background knowledge, and experience with particular kinds of texts and how they work. In a classroom environment where sharing one’s reading processes, comprehension difficulties, and attempts to solve comprehension problems is the norm, teachers have many opportunities to share their expertise. They also can draw students’ attention to the fact that different readers in the classroom bring different valuable resources that influence their interpretations of texts. The point of such activities is for students to notice and
appropriate successful ways of reading and solving problems of reading comprehension; for example:

- Notice the different kinds of background knowledge and experience different readers (teachers and classmates) bring to texts and how that affects the way they interpret what they read.
- Notice the ways different readers think aloud and respond to texts as they work to make sense of them.
- Notice the different reading strategies different readers use to make sense of texts.
- Try out the different strategies and approaches other readers use to make sense of texts.

The Personal Dimension

The personal dimension of a Reading Apprenticeship classroom focuses on developing individual students’ relationships to reading. Classroom activities support students in developing increased awareness of themselves as readers, inviting them to discover and refine their own goals and motivations, likes and dislikes, and hopes and potential growth in relationship to reading. This work develops within and in turn adds to the development of the social context of the classroom. As individual students gain a sense of themselves as readers, they add to the classroom community their descriptions of their varied reading processes, their responses to texts, and their questions and interpretations, all of which provide rich content for classroom discussions.

Developing Reader Identity

The activity of reading—the ability to use a variety of metacognitive and cognitive strategies to make sense of texts—is closely tied to the will to read. When students feel they are not good readers, frustration, embarrassment, or fear of failure can prevent them from engaging in reading. Without confidence in themselves as readers, students often disengage from any serious attempts to improve their reading.

Learning to independently read unfamiliar types of texts and complex texts is hard work. Unless students begin to see reading as related to their personal interests and goals and as something they can improve, they are unlikely to expend the necessary effort. For poor achievers to become more motivated and persistent, the key is seeing that their effort really does lead to success. We have found that when we can convincingly frame the hard work of improving reading as an avenue toward increased individual autonomy and control, as well as
toward an expanded repertoire of future life options, we have won more than half the battle.

In developing the personal dimension of a Reading Apprenticeship classroom, teachers and students work together to develop new identities as readers, awareness of their own reading processes, willing persistence in the hard work of building stronger reading skills, and increased confidence for tackling new and unfamiliar kinds of texts.

Reading researchers have found that having a sense of who one is as a reader and learner is an important aspect of motivation. Especially for students who think of themselves as nonreaders or poor readers, developing a sense of reader identity is crucial. Teachers can create classroom routines or periodic activities that help students see themselves as readers, come to know what texts they like and don’t like, identify where their strengths and weaknesses as readers lie, and articulate and monitor their own goals as developing readers. The following activities can help students see themselves as readers:

- Write and talk with others about previous reading experiences.
- Write and talk with others about reading habits, likes, and dislikes.
- Write and talk with others about reasons for reading.
- Set and periodically check in on goals for personal reading development.

**Developing Metacognition**

Gaining metacognitive awareness is a necessary step to gaining control of one’s mental activity. Consciousness of their own thinking processes allows learners to “reflectively turn around on their own thought and action and analyze how and why their thinking achieved certain ends or failed to achieve others.” Moreover, knowledge of one’s own thinking is like other kinds of knowledge in that it grows through experience (that is, through the metacognitive activity itself) and becomes more automatic with practice.

Students find becoming conscious of their mental processes unfamiliar yet often intriguing. Here are examples of classroom activities that assist students in thinking about their thinking:

- Notice what is happening in your mind in a variety of everyday situations.
- Identify various thinking processes you engage in, in a variety of everyday situations.
- Notice where your attention is when you read.
- Identify all the different processes going on while you read.
- Choose what thinking activities to engage in; direct and control your reading processes accordingly.
Developing Reader Fluency and Stamina

One of the paradoxes that struggling or disengaged readers face is that in order to become more confident readers and to enjoy reading more, they need to become more fluent readers. Yet it is difficult to develop fluency without feeling confident and interested in reading. Our colleagues in secondary and college classrooms have developed a variety of ways of approaching this very difficult area:

- Demonstrate that all readers, including the teacher, are developing readers and that everyone has room to grow during a lifetime of reading.
- Identify the role that effort plays in the growth of reading comprehension over time; notice that effort pays off in becoming a stronger reader.
- Notice and celebrate progress as a developing reader; increase patience with yourself as a reader.
- Persist in reading even when you are somewhat confused or bored with a text.
- Build stamina for reading longer texts and for longer periods of time.

Develop Reader Confidence and Range

Another paradox that teachers face in developing students’ personal relationships to reading is that readers who do not feel confident about their abilities are less likely to take the risks involved in approaching new kinds of texts. Extending the range of what they can read, however, is an important way that students can build their confidence as readers. Students (and their teachers) are often unaware of just how much reading students do daily. The skills, strategies, and knowledge students bring to making sense of such daily reading as notes from friends or parents, websites, movie and music reviews, song lyrics, and electronics manuals are valuable resources teachers need to invite into the classroom.17 Convincing students that they have already mastered many text types helps build the kind of confidence they need to approach less familiar texts.

Our colleagues have used a number of activities to build such confidence and expand the range of texts students read:

- Bring the huge variety of different kinds of texts students read in their daily lives into the classroom.
- Investigate how students approach and make sense of these different kinds of texts.
- Connect the competencies that students demonstrate in approaching these texts to the resources students will need to approach unfamiliar texts.
• Have students read, with class support, short pieces representing a wide range of unfamiliar types of texts.

• Draw attention to what students do understand when reading unfamiliar texts.

The Cognitive Dimension

The cognitive dimension of the Reading Apprenticeship framework focuses on increasing students’ repertoire of mental tools—cognitive strategies for making sense of texts. Through personal and social activities that engage students and teachers in thinking about and sharing their reading processes, the different ways in which readers approach reading begin to emerge. This sets the stage for learning new and perhaps more powerful ways to read. The goal of classroom work in the cognitive dimension is to expand the repertoire of strategies that students can use independently to control their own reading processes and, thereby, their comprehension.

A great deal of research on the reading process has identified and detailed many different cognitive strategies used by good readers to puzzle through a difficult text and to restore comprehension when they lose it. We discuss a number of them in this section. The research shows that these cognitive strategies can be taught to students who do not use them spontaneously on their own. And once students learn these strategies and use them for their own reading purposes, they gain confidence and a sense of control over their reading processes and comprehension. It is important, however, to integrate this strategy teaching and strategy practice into the reading of subject area texts precisely where these strategies will come in handy for students who find such reading difficult. Teaching students a disembodied set of cognitive strategies—separate from the texts that necessitate their use and without support for independent use of these strategies—will not develop students’ strength and independence as readers.

Getting the Big Picture

To begin with, strategies such as skimming, scanning, and reading ahead all give students a view of the whole text, even though particular aspects of it may need later clarification. Part of a strategic approach to texts is helping students live with ambiguity and confusion and helping them understand that they do not have to comprehend everything immediately. They can return to work on problem spots in the text, perhaps with some problem-solving strategies, after they get a glimpse of the whole. These strategies enable students to approach texts they may otherwise feel are too difficult to jump into. Teachers
can model and guide students in practicing these ways of approaching difficult texts:

- Identify text types and sources.
- Skim or scan texts.
- Read through ambiguity and confusion.
- Read ahead to see whether the confusion clears up.
- Review the big picture to check comprehension.

**Breaking It Down**

Researchers have also found that proficient readers break texts into comprehensible units, using a variety of strategies. Breaking down the text is a particularly useful reading strategy when comprehension fails. By rereading the problematic segment of the text, readers can often identify the chunk in need of closer attention and focus on just that part to restore comprehension. Our colleagues have incorporated into their classrooms some of these strategies for breaking down the text:

- Chunk texts into small segments: for example, a section of a textbook, a caption and illustration, or a complex sentence or even a clause.
- Identify or clarify pronoun references and other textual connections that aid comprehension.
- Employ close reading of texts (linking interpretations to specific textual evidence).

**Monitoring Comprehension**

Reading research has shown that stronger readers monitor their reading, checking in with themselves to see how comprehension is progressing. Weaker readers are frequently unaware of how well they are understanding a text, but numerous intervention studies demonstrate that this critical awareness, and then control, of comprehension can be taught. Here are some activities that teachers can model and guide students to carry out so they can monitor their comprehension while reading difficult texts, becoming increasingly self-regulated readers and learners:

- Check to see whether comprehension is occurring.
- Test understanding by summarizing or paraphrasing the text or by self-questioning.
- Decide whether to clarify any confusions at this time.
Using Problem-Solving Strategies to Assist and Restore Comprehension

Researchers have found that to help developing readers make sense of what they read, it is important to help them maintain their mental engagement with texts while reading. Students’ engagement with and comprehension of texts is increased by activities that help them understand that reading is an active, problem-solving process to make meaning. They must draw on all their knowledge and experiences, because a good reader’s whole self is involved in reading.

All of the following strategies are used by proficient readers as ways of consolidating and refining their understanding as they read and when comprehension founders:

- Question texts, authors, and yourself about the text.
- “Talk” to the text through marginal annotations.
- Visualize what is described in the text.
- Make meaningful connections between the text and other knowledge, experiences, or texts.
- Reread sections of the text to clear up confusions.
- Summarize, retell, or paraphrase texts or parts of texts.
- Represent concepts and content of texts in graphic form.
- Represent concepts and content of texts through metaphors and analogies.
- Organize and keep track of ideas in a text through graphic organizers, outlines, response logs, and notes.

Setting Reading Purposes and Adjusting Reading Processes

Proficient readers read texts differently depending on their purposes for reading. Purposes drive reading processes. You may blitz through the television guide to find the time of a particular show; you know what you want to watch. On the other hand, if you are undecided, you may look at the offerings on every channel, even consulting the movie summaries and reviews in order to choose what to watch. Similarly, disciplinary perspectives and purposes shape the work readers do with texts. Reading a political speech to analyze uses of rhetorical devices will require different reading and reasoning processes from those used in reading the same speech to decide whether to vote for a candidate.

In the beginning, students will need to consciously set their own purposes for reading particular texts, even when those texts are assigned. Then students can begin to notice, through classroom inquiry and sharing, how purposes affect the ways readers approach particular texts.
Teachers can help students learn to let reading purposes drive their reading processes by modeling, guiding, and giving students the following kinds of practice:

• Set goals or purposes for your reading whenever you approach a text.
• Read the same text for different purposes.
• Notice how reading purposes affect reading processes.
• Vary reading processes depending on the purposes for reading.

In a Reading Apprenticeship classroom, students are engaged not only in practicing a variety of strategies for controlling reading processes and restoring reading comprehension but also in assessing the effects of these strategies on their own reading and reading development. Students share what they are doing to make meaning of texts. They also share how they are doing so, becoming more aware of their own reading strategies and serving as resources to other students in the classroom.

The Knowledge-Building Dimension

Like many other factors in reading, knowledge—whether about the world of ideas in a text, the ways particular texts work, or discipline-specific ways of thinking and using language—supports reading comprehension and also develops as a result of reading.

For students to become proficient at reading to learn, they need to know something about the topics they will encounter in the text if they are to make connections to the ideas and elaborate their prior understandings. For students to access different types of texts, they need to recognize that texts have various and distinctive structures and genres. When encountering the language of texts, students need to know how to read academic versus everyday language and to use the language signposts that direct the reader through the author’s ideas. To make sense of disciplinary texts, students also need to know about the customary ways of thinking, and therefore of reading, that constitute the practice of a particular discipline. These different types of knowledge—knowledge about content, about texts, about language, and about disciplinary ways of thinking and communicating—are vital resources supporting comprehension.

Surfacing, Building, and Refining Schema

Research on proficient readers’ mental processes has led to some key modern understandings about how the mind works, about how people think, even about what we think with. Studies have demonstrated how readers interact
with texts, bringing their own stores of knowledge into play as they attempt to shape possible text meanings. Readers do not passively absorb information from the text; rather, they actively mobilize their own knowledge structures to make meaning in interaction with the text.

Readers call up whole worlds of knowledge and associations as they read, triggered by particular ideas, words, or situations. These knowledge structures are known as schema. Schema for particular networks of knowledge and information are activated as individuals read and add to their existing schema as they encounter new information. In addition, their existing schema influence the ways they approach and make sense of texts.

Schema—stores of knowledge about texts and about the world—are organized as networks of associations, which can be triggered by a single word. For example, the word “ball” may call up images of baseball diamonds, backstops, and bases, as well as the pitchers, batters, catchers, umps, fielders, and even sports commentators who take part in the game. Innings, errors, random statistics about particular players, and even the smells and sounds of baseball stadiums may quickly and automatically come to mind as such images and ideas flood into consciousness. For another reader, the same word, “ball,” may call up competing schema: images of fancy gowns, corsages, tuxedos, limousine rides, and the blushing self-consciousness felt at a first prom. Proficient readers know they must relinquish schema that prove inappropriate as they encounter further information from the text, but less experienced readers will often hold onto inappropriate images that block meaningful connections with the text.

Knowledge can be stored in other ways as well; for example, as grammars for particular kinds of texts. Proficient readers of children’s stories will have a story grammar that enables them to predict what will unfold after “Once upon a time.” Knowledge can also be stored as a script for an event with a well-known and predictable structure, such as a birthday party or eating in a restaurant. From experience ordering meals, individuals have a script for the routine of getting the host or hostess’s attention, being seated and given menus, and so forth. They are therefore not surprised when a person approaches with a small pad of paper and asks, “Have you decided yet?”

In a Reading Apprenticeship classroom, to help students not only to activate appropriate schema for particular texts but also to recognize that texts trigger whole networks of associated knowledge and experiences, teachers use activities such as the following:

- Recognize the different schema that can be triggered by a single text.
- Share the schema individual readers bring to mind while reading a particular text.
• Identify the schema appropriate for making sense of particular texts.
• Relinquish competing but inappropriate schema for particular texts.

**Building Knowledge of Content and the World**

Many studies have shown that students with prior knowledge of the topics they will encounter in a text comprehend more of the text and also recall more information from it than students who lack this knowledge. Because prior knowledge is such a powerful resource for comprehension, many kinds of pre-reading activities—such as learning experiences to build conceptual understandings, pre-reading guides, and even brief text summaries before students read the text, have been developed as ways to build schema, thereby increasing student comprehension and retention of information. In addition, educators have developed many ways to activate the knowledge students already have about topics they are going to read about. Finally, many studies have shown that in the face of new and competing information, students relinquish their previous conceptions or ideas with great difficulty. Strategies for articulating and challenging misconceptions are important if teachers are to counter the strong but incorrect theories students hold about many topics.

Teachers can use activities like these to prepare students to learn new information:

• Brainstorm and share knowledge or information about the topic.
• Identify conflicting knowledge or information about the topic.
• Imagine yourself in situations similar to those that will be encountered in the text.
• Explore conceptual vocabulary that will be encountered.
• Take positions on a topic before reading about it.
• Evaluate the fit between your prior knowledge or conception of a topic and the ideas in the text.

**Building Knowledge of Texts**

Knowledge about the ways different kinds of texts are structured and the ways these structures reveal the organization and interweaving of the author’s ideas has also been shown to influence comprehension and memory. Proficient readers use their awareness of text structures to understand the key points of a text, and when they report what they recall, their summaries reflect the text organization. Less-experienced readers, apparently unaware of text structures, have difficulty organizing and prioritizing text information. In our work we
often see students who can follow a typical narrative but are bewildered by the
text structures in informational text. Yet ample research shows that when stu-
dents are taught to identify text structures through the use of such supports as
graphic organizers or text previewing, their comprehension increases.30
Teachers can assist students with activities that focus on texts’ underlying
structures:

• Identify the ways particular texts are structured.
• Notice patterns in structure across texts of given genres.
• Preview a text to build a schema for it; notice structural features such as
  headings, subheadings, and illustrations.
• Use text organization and structure to assist in comprehension of particular
texts.
• Notice and use the interconnections between visuals and text to build
  comprehension.
• Use signal words and phrases to aid comprehension and to predict the
  direction particular texts will take next.

Building Knowledge of Language
Knowledge about language and how it works to inventively convey meaning
in everyday and academic discourse is key to unlocking the meaning of texts.
Students need to develop both fascination and facility with words, acquiring
word-learning strategies they can apply when faced with the variable and rich
vocabulary presented in texts. Similarly, they need to develop facility for disen-
tangling the complex sentences and ideas presented in academic texts. Subject
area texts often rely on academic discourse, characterized by complex sentences
containing multiple embedded clauses, verbs that have been turned into nouns
standing for large disciplinary concepts, and Latin- and Greek-derived vocabu-
laries. By engaging students in inquiry into word and sentence construction and
meaning, teachers can help develop the metalinguistic awareness and skill that
students need to bring to bear in becoming academic code-breakers.31 The follow-
ing activities assist all students but are especially valuable for English learners:

• Identify the particular kinds of language used in particular kinds of texts.
• Use contextual clues from the text to define unfamiliar words.
• Recognize when familiar words are used in unfamiliar ways, and use con-
text to understand the new meaning.
• Identify roots, prefixes, and suffixes of Latin- and Greek-derived words
  often encountered in expository texts.
• Create word families associated with particular ideas or subject areas.
• Break complex sentences into component clauses to identify the ideas and relationships expressed.

**Building Knowledge of Disciplinary Discourse and Practices**

Recently literacy research has begun to focus on identifying effective ways to integrate knowledge about customary ways of thinking and using language that characterize discourse in particular academic disciplines into literacy and learning in the subject areas.32

Students need to understand the specific “habits of mind” characteristic of particular academic disciplines in order to make sense of academic texts and use them to carry out valued inquiry tasks in particular domains.33 We have observed how important it is for students to know how particular texts are functioning in the world, what enterprise these texts serve, and what social practices the texts are contributing to.

Knowing about topics, text structures, and language alone does not help students who are bewildered by the larger sense of a text and its uses in a disciplinary enterprise. For example, students are often unaware that scientific activity is motivated by the enterprise of explanation or discovery, or that history is an enterprise devoted to interpretation and explanation of events, or that the study of literature can be understood as an aesthetic exploration of the human condition.

Discipline-specific knowledge is related to the more general idea of communicative competence—competence in producing and comprehending particular forms of language, or discourse—that develops in particular social settings. In the past few decades, research in the varied fields of linguistics, social psychology, cognitive science, anthropology, and education has illustrated how proficient readers and writers of particular texts acquire not just the component skills or processes needed to read and write but also the ways of participating in literacy activities valued by particular communities of readers and writers.34 They learn specific “ways with words”35 by actively participating in reading or writing in the company, and with the guidance, of more skilled practitioners.

Authors who write within the practice and language conventions of a particular discipline often assume that readers have an appreciation and understanding of that discipline’s ways of thinking. Specialized ways of thinking have associated specialized ways of using language, which we might call disciplinary ways with words. In our work with secondary and college teachers, we have been exploring ways to help students build their knowledge of text structures and of the ways with words and ways of thinking that are characteristic of different disciplines. These types of knowledge are particularly important
when educators hope to apprentice student readers to academic reading, yet they have rarely been included in subject area teaching. We believe that teaching students about the text structures of disciplinary text and the disciplinary enterprise these texts mirror will enable students to “crack the codes”\textsuperscript{36} of academic texts in order to become more successful and ultimately more independent learners.

Teachers can help students acquire disciplinary and discourse-specific knowledge by making their own disciplinary habits of mind visible to students through thinking aloud and class discussion, helping to demystify the hidden codes—the ways of using language, the conventions of form, and the larger questions and standards of inquiry and evidence—that count in particular disciplines. Moreover, they can engage students in classroom activities such as these:

- Identify the possible purposes that the authors of particular texts may have had in creating these texts.
- Identify the possible audiences that particular texts seem to be addressing.
- Identify the functions that particular texts serve in particular circumstances.
- Explore the large questions, purposes, and habits of mind that characterize specific academic disciplines.
- Inquire into the ways in which texts function in particular disciplines.
- Identify the particular ways of using language associated with particular academic disciplines.
- Use valued reasoning practices of the disciplines to inquire into text meanings.
- Use texts to carry out valued disciplinary inquiries and tasks.

In the next several chapters, we bring the Reading Apprenticeship approach to life through portraits of classroom practice illustrating extensive reading, metacognitive conversation, and each of the four dimensions. We also present lessons and specific assignments from classrooms of our colleagues in middle school, high school, and community colleges around the country. Because these are real classrooms, their activities resist neat categorization into one or the other of the interacting dimensions of the Reading Apprenticeship approach—though we try, for the sake of exposition, to do so. Nevertheless, the fact that the dimensions overlap in our approach is an important part of the picture we want to illustrate. Areas of classroom life overlap, activities serve multiple purposes, and good teachers are always doing more, as they construct teaching...
and learning in the classroom, than may at first be obvious. We hope that what emerges in these portraits of practice is a vision of classrooms in which learners are engaged, motivated, and clearly gaining power, knowledge, and independence as readers.

Notes


RAND Reading Study Group. (2002). Reading for understanding: Toward an R&D program in reading comprehension. Santa Monica, CA: RAND.


11. Baker, Metacognition in comprehension instruction (see note 7).


Kamil, Borman, Dole, Kral, Salinger, & Torgesen, *Improving adolescent literacy* (see note 7).


Kamil, Borman, Dole, Kral, Salinger, & Torgesen, Improving adolescent literacy (see note 7).


Bransford, Brown, & Cocking, *How people learn* (see note 5).

Flavell, Metacognitive dimensions of problem-solving (see note 10).

Greenleaf, Schoenbach, Cziko, & Mueller, Apprenticing adolescent readers to academic literacy (see note 14).


Greenleaf, Schoenbach, Cziko, & Mueller, Apprenticing adolescent readers to academic literacy (see note 14).


Schunk, Self-efficacy for reading and writing (see note 14).


Mellard, Patterson, & Prewett, Reading practices among adult education participants (see note 17).

Nist & Simpson, College studying (see note 16).


Cohen & Snowden, The relations between document familiarity, frequency, and prevalence and document literacy performance among adult readers (see note 17).


Rapp & van den Broek, Dynamic text comprehension (see note 3).


24. Anderson, Role of the reader’s schema in comprehension, learning, and memory (see note 23).


Rapp & van den Broek, Dynamic text comprehension (see note 3).


26. Anderson, Role of the reader’s schema in comprehension, learning, and memory (see note 23).


Bransford, Schema activation and schema acquisition (see note 24).


Kintsch, The role of knowledge in discourse comprehension (see note 23).


Simonsen & Singer, Improving reading instruction in the content areas (see note 24).

Sinatra & Broughton, Bridging reading comprehension and conceptual change in science education (see note 24).


Cohen & Snowden, The relations between document familiarity, frequency, and prevalence and document literacy performance among adult readers (see note 17).


Reznitskaya, Anderson, Dong, Li, Kim & Kim, Learning to think well (see note 25).


30. Akhondi, Malayeri, & Samad, How to teach expository text structure to facilitate reading comprehension (see note 29).


Pearson & Camperell, Comprehension of text structures (see note 25).


Williams, Literacy in the curriculum (see note 23).


Scott, Science and language links (see note 31).


The Reading Apprenticeship Framework


Scribner & Cole, *The psychology of literacy* (see note 1).

Street, *Social literacies* (see note 1).


Gutierrez, Developing a sociocritical literacy in the Third Space (see note 14).


Lemke, Multiplying meaning (see note 30).
Excerpt from Chapter 8 — The Knowledge Building Dimension: Surfacing and Building Schema in the Disciplines
from Reading for Understanding: How Reading Apprenticeship Improves Disciplinary Learning in Secondary and College Classrooms, 2nd Edition
Ruth Schoenbach, Cynthia Greenleaf, and Lynn Murphy

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I have a big goal to read all the Jackie Collins books before I’m 20, so I read a lot of that. . . . Othello was kind of hard. I used like a little bit of schema because last year we read Romeo and Juliet, and this year we read Othello, and they’re both tragedies. Usually they’re going to follow the basic outline of what Shakespeare writes as a tragedy. Like once you already read an author’s work, you kind of know how that author likes to write.

—Shelli, grade 10 student

**KNOWLEDGE**—whether about the world of ideas in a text or about the ways particular texts work—both supports reading comprehension and develops as a result of reading. To access the ideas and information in different types of texts, readers call on overlapping types of knowledge. We have chosen to categorize them in this chapter as knowledge about content and the world, knowledge about texts, knowledge about language, and knowledge about disciplinary discourse and practices.

Tenth-grader Shelli, quoted at the opening, has developed some knowledge of different kinds of texts that she applies to reading fiction. She has come to understand (and enjoy) the potboiler, a genre favored by Jackie Collins. But Shelli has also developed clues about how to read Shakespearean tragedies. As she says, her schema from reading Romeo and Juliet gave her a way to approach Othello: “You kind of know how that author likes to write.”

In this chapter, we look at the ways in which teachers can support students in accessing and building on their prior knowledge, or schema, generally and in relation to specific disciplines. Yet even in a chapter focused on building knowledge, knowledge is not the end in and of itself. To help students build
knowledge, the overarching goal remains that of increasing their confidence and competence as independent, critical readers and writers of academic texts. We are still talking about how to promote student agency.

### Thinking Metacognitively About Schema

The concept of schema emerges as we work with text. One of the things that keeps coming up is what individuals know—and bring to the text. I use the word “schema” to name it. Soon the function of schema in students’ reading is obvious to them. Usually there is a nice moment when we notice together that the more schema you have about something, the easier it is to read about that topic, and the easier it is to learn more about it. The feeling in the room is something like, “How cool is that!!”

—Gayle Cribb, high school history teacher

Schema is a concept that students should understand and own. They can think of schema as a personal library of knowledge—based on a lifetime of reading and experience—that they already have and can draw on, add to daily, and revise if they need to as they learn more. This information is organized, filed for future retrieval. When students encounter new information or experiences, their minds automatically try to figure out how the new information fits with schema they already have: What do I know that is like this? What pattern am I seeing? Where do I file this?

Students may find, for example, that they have lots of schema for music, filed in different ways (types, artists, instruments, last night listening to the car radio, Jerome’s favorite songs), so even if they hear a Bach fugue for the first time, they recognize patterns: it’s music, not sandpaper. They no doubt have considerably less (or even incorrect) schema for Daniel Webster (his cousin Noah, for example, was the lexicographer).

High school reading specialist Linda Brown found that the concept of schema makes it easier for her students to understand why they may have trouble comprehending particular texts:

> On a metacognitive level, not as an excuse, the concept of schema has allowed students to understand a reason for the difficulties some experience.

For teachers, awareness of the schema that students have and may need to develop is especially important if they anticipate a mismatch between students’ schema and the texts they are expected to understand. When giving reading assignments, most teachers take it upon themselves to surface students’ prior knowledge about a topic or genre or author as a jumping-off place. What teachers do less often is help students become metacognitive about schema, showing them how they can activate relevant knowledge they already have from other
The Knowledge-Building Dimension

When Lisa Krebs introduced her tenth graders to *Othello*, she was concerned that they would be quick to dismiss it as too hard or too boring. As she explains, she pushes students to explore their schema as a way to remind them of how much knowledge they already bring to the text if they figure out how to use it:

“I’m trying to get them to be motivated readers by showing them that they do have schema within themselves that will help them understand what’s going on, on the page. I explain that the more you recognize, or the more you can bring in experience to a reading, the more interesting it is to you. And then, hopefully, the more likely you’ll be to want to read it, and to want to really explore the ideas that are in it.

“For example, we did a Talking to the Text on a section from Act 2, where the messenger is telling all of the Venetians in Cyprus that it’s time to party—they’ve won the battle against the Turks, and also a fellow has recently married.

“Kids understand party, because Harold [the messenger] uses words like ‘festivity’ and he talks about keeping the kitchen open and having access to food and wine. But he also talks about how it’s celebratory because of the nuptials. A lot of kids stopped on that word: ‘Nuptials? What is that? I don’t understand what that is.’

“I helped them see that they do know what that is, they just don’t use that word as nuptials. ‘Think about the term prenuptial,’ I said. ‘You know what a prenuptial agreement is, right?’ And everybody knew that.

“And so just trying to let them in on that they do have a lot of schema there, that they just need to give it a second, to sort of sit on it a minute and not give up.”

When teachers introduce students to the concept of schema, humor is a particular ally. The schema “collisions” that make humor humorous can immediately draw students into consideration of how their minds organize knowledge. For example, the headline “Red Tape Holds Up Bridge” makes us smile precisely because competing schema for “red tape” allow us to visualize a very unlikely piece of engineering. The headline can be understood in more than one way: it depends on what schema the reader brings or applies.
In the first Reading Apprenticeship classes, teachers Christine Cziko and Lori Hurwitz routinely challenged their academic literacy students with ambiguous headlines (and enlisted students in the search for such examples). By jointly considering the different ways of understanding these headlines, students could see for themselves the role of schema in how easily or accurately readers understand text. (Box 8.1 describes the “Ambiguous Headlines” activity.)

Political cartoons are another way to introduce students to the role of schema in understanding. Readers of the political cartoon in Box 8.2 will understand the cartoonist’s basic message about gender-role reversal, regardless of their

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**BOX 8.1**

**Ambiguous Headlines**

**PURPOSE**

Text that can be understood in more than one way highlights for students the role of schema in assigning meaning. Ambiguous headlines provide for an engaging exploration of how our minds relate what we already know to what we read.

**PROCEDURE**

- Collect a number of newspaper headlines that can be interpreted in more than one way. (For example: “Police Begin Campaign to Run Down Jaywalkers”; “Safety Experts Say School Bus Passengers Should Be Belted”; “Two Sisters Reunited After 18 Years in Checkout Line”; “Kids Make Nutritious Snacks”; “New Vaccine May Contain Rabies”; “Killer Sentenced to Die for Second Time in 10 Years”; “Miners Refuse to Work After Death.”)
- Have students copy down an ambiguous headline and write what they believe to be an improbable but plausible explanation.
- Ask students to write what they believe is the probable meaning of the headline and an explanation of the schema necessary to understand it.

Here are student examples:

**“Squad Helps Dog Bite Victim”**

*Improbable meaning:* Bad people help a dog bite people.

*Probable intended meaning:* A group of people rescue someone who got bitten by a dog.

*Schema:* You have to know that groups of rescuers are sometimes called squads.

**“Eye Drops Off Shelf”**

*Improbable meaning:* The eye falls down off the shelf.

*Probable intended meaning:* Eye drop medicine gets removed from the store.

*Schema:* You have to know that headlines sometimes leave out words to save space. Eye Drops Taken Off Shelves would have made more sense. Also you have to know that when something is wrong with it, stuff gets taken out of the store so it doesn’t hurt someone.
The structural features of cartoons—graphic exaggeration, easily discerned clues, and few words—allow students to focus on ways their schema “fill in” to enrich the text and graphics.

PROCEDURE

• Project the political cartoon for all to see and distribute a copy to each student.
• Ask students to Talk to the Text and discuss it with a partner:
  – What do you think the cartoon means?
  – Why did the artist create this cartoon?
  – What evidence or clues did you use?
• Facilitate a class discussion of students’ ideas. What was the role of schema?

“Election Day!” was created by E.W. Gustin in 1909. The original is held by the Library of Congress.
knowledge of women’s suffrage. Readers will appreciate the scene even more if they know that this cartoon was published after sixty-plus years of struggle for women’s right to vote and a full decade before women were actually able to celebrate election day.

Working with low-risk materials like ambiguous headlines, jokes, and cartoons can help students and teachers alike recognize that an individual’s schema are undeniably shaped by his or her particular experiences and background. Although class members will share a significant amount of schema by virtue of their common exposure to mass media and living in the same nation, region, state, and municipality, classrooms are nevertheless places where diverse sets of schema come into contact. When individual histories meet over a particular text, varied understandings are bound to emerge. When unexpected interpretations occur, sometimes teachers conclude that students merely lack schema. Routine invitations to think metacognitively about schema can therefore serve teachers as well as students. Both groups benefit from seeing what schema resources students can offer to the conversation and, conversely, how a perfectly understandable misreading of a text may occur due to schema differences. With new understandings of the sources of their students’ misreadings, teachers can then help students refine their schema for the task at hand. In such circumstances, teachers discover that far from lacking in schema, students have warehouses of experience and information that can support them in tackling complex text.

For example, technical college instructor Michele Lesmeister was frustrated with a model of adult GED instruction that assigns students’ reading material according to Lexile measures. Her students tested at the grade 5 Lexile level, and that’s the level at which their textbook was written. However, when Michele introduced Reading Apprenticeship approaches, she decided to also introduce a few texts that were more challenging. She surveyed students about which classroom materials worked best for them and found that the easiest to comprehend were not necessarily preferred:

Interestingly, the exercises selected as best by the students were the type of assignment that compelled them to participate the most, argue the most, and engage the best with the text and in a variety of ways. [To me,] this was like a permission slip to continue to toss out the leveled reading textbook materials and focus more on relevant content—and in a more meaningful way. By the end of the quarter, they were reading grade 9–10 level materials. I found that by applying the conceptual sophistication and intellectual maturity that my students possessed, I could cross such superficial boundaries in my course, leading to a much more engaged classroom.

In Michele’s class, texts better matched to students’ maturity, combined with collaborative participation routines, gave students a much needed opportunity to build new schema and begin the upward spiral to learning more.
The importance of background experience and knowledge in assisting comprehension is undeniable. Teachers can take advantage of what they know about their students to select texts that will evoke their experiences. This can be empowering for students who may otherwise believe their experiences and knowledge do not matter in the classroom. Yet, when taken to an extreme, starting only with what students know can result in staying with what students know. For students with little schema about a topic of study, not already knowing sometimes becomes a trap. In one academic literacy classroom, for example, a student dismissed the need to read a text about the Armenian genocide by asking, “Is anyone in here from Armenia?” She had learned to expect only topics and texts related to her experience and those of her peers. If not supported to stretch beyond what they already know, students may never learn to make connections between the known and the new. They may get stuck exploring what they already know. With metacognitive awareness of their schema, students can instead focus on building and refining what they know—learning to learn in the process.

**Surfacing, Building, and Refining Schema**

*Teacher:* I’d like to get some volunteers to respond to today’s preamble: What do you know about organic chemistry or think about it, what are some organic molecules that you know, what do you want to learn about organic chemistry?

*Alma:* Organic reminds me of like organic stores, they have foods and drinks that are basically just pure, natural.

*Teacher:* So you’re wondering if the name “organic,” you might get a meaning from that. Okay, Kyle.

*Kyle:* I know some different organic molecules that’s in us and some plants, like sucrose, glucose. Um, should water be in it?

—Exchange in Will Brown’s honors chemistry class

As part of his introduction of a new chemistry unit, Will Brown invites his students to consider a set of “preamble” questions, first in writing and then with the class, about what they might encounter in their upcoming study of organic chemistry. He is not concerned that they may have misconceptions. He is interested in students’ surfacing any current schema and making preliminary or tentative connections to new information. He knows they will have many opportunities to add to and revise their schema for “organic” as it relates to chemistry, water, and even health food.

Will has an inherent trust of the inquiry process—perhaps because he is a science teacher. He understands that for students to build or revise schema, they must first surface any partial understandings or misconceptions they may have. Once these are on the table, Will’s responsibility is to provide sufficient opportunities for students to evaluate and add to or revise them.
Surfacing Schema

Surfacing students’ schema sometimes means tolerating their misconceptions. For teachers who are making a transition to more student-centered, inquiry-based learning, this part of the learning process can be unsettling. When students are developing any area of autonomy and competence, they will make mistakes. In Reading Apprenticeship classrooms, because so much knowledge building is collaborative, in addition to the incorrect “knowledge” that students sometimes have, there will be times when they communicate those errors or misconceptions to others during discussions or group work.

Knowing when, whether, and how to intervene in students’ misunderstandings is a skill that teachers develop as a crucial part of encouraging and guiding students toward deeper comprehension of challenging texts. Some knowledge errors don’t matter; some are addressed by other students. Many misconceptions get worked out naturally as engaged learning proceeds; others are significant detours or dead ends that need to be handled.

What we want to emphasize is that in Reading Apprenticeship classrooms, where teachers are negotiating long-term student success, the need to ensure that students have immediate, correct information almost never trumps building or maintaining student engagement. Given a choice of whether to simply ignore a misstatement or misconception, to set up a next learning task that explicitly counters it so students develop their own ways of refuting the error, or to step in with correct information and perhaps derail student engagement, teachers learn to make very deliberate calculations.

In Classroom Close-Up 8.2, Will describes a model he tries to follow when addressing student error. The related Box 8.3 maps this approach in a flow chart.

Will’s approach, which he also uses when students expect him to give them the answer to a question, means that students come to recognize that the teacher is not the center of the classroom—they are. Rita Jensen labels this understanding a “huge turning point” for her middle school classes:

Lots of times students have been “taught” that, if they wait, the teacher will provide whatever answer is required. If they don’t answer, she will do it for them. It’s a huge turning point when students see that the teacher won’t give them the answer. Instead of keeping them dependent, you are teaching them agency.

It’s bigger than just not providing the answer. It is about creating a culture of curiosity and collaboration in the class. It can begin with reciprocal modeling, when the teacher says to the class, “I am wondering about this. What do you think?” Or when someone ventures an idea, it can get thrown back to the class or to partners or small groups. “Who has another idea?”
When students are on the wrong path, the hard part is redirecting them to other thinking without shutting them down. But if they are in the habit of asking and being asked, “Where is your evidence for that?” or “What makes you say that?” their ideas are not rejected, but neither are they accepted without sufficient evidence. Students feel the difference.

CLASSROOM CLOSE-UP 8.2

Decisions That Keep Students in Control of Their Learning

Will Brown’s high school chemistry students have learned that he will rarely step in and resolve a question, error, or confusion. Will has an internalized “flow chart” that he uses in responding to students, and it is based on split-second assessments of whether the confusion is an opportunity to support student inquiry. (See also Box 8.3.)

“When I notice a student’s error or misconception, my first move is to make sure that the problem is not one of communication. Sometimes what appears to be a misconception is only a miscommunication and can be cleared up with a clarifying question to the student.

“If I really am dealing with an error or misconception, I evaluate how important it is. When the error is insignificant or simply distracting, I may put it to rest with a brief response.

“But when the error or misconception has the potential to interfere with learning goals, I have to ask: What is the urgency of addressing it? Can learning progress if I ignore it?

“If learning goals and learning progress are being derailed, I have three choices: initiate an inquiry, make a mental note to initiate an inquiry later, or clear up the confusion myself.

“My preference is to get students working on clearing up the error or misconception. I make this choice when I know that with some probing on my part, the student or other students in the class have the necessary schema to work it out.

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“One brief example demonstrates Will’s resolve to turn misconceptions over to students. Groups have been asked to come up with a definition for “substance” based on a recent lab:

Jerome: We wrote, “A particular type of constitution.”
Teacher: What does that mean? What does “particular” mean?
Class: A certain one. Specific.
Teacher: If it’s particular, it’s one, right? And what’s “constitution”?
Jerome: Isn’t that like a democracy or something like that?
Teacher: Yeah, we’ve got the Constitution and democracy. Do you think that’s what they’re talking about?
Jerome: No.
Teacher: So maybe that word has different meanings whether you’re talking about science or government. Does anyone else have another definition they’d like to share? Let’s work from that direction.

“If there is no other option, I will provide the relevant conceptual framework and the ‘correct’ answer. I only do this if there are no other resources I can offer students as a basis for building the knowledge needed, or if I know there is no upcoming opportunity to address the misconception ‘properly,’ through inquiry. My default position is to keep students engaged and in control of their learning.”