Chapter 2

The Reading Apprenticeship Framework

IT IS PROBABLY self-evident that the conceptions educators hold about the nature of reading shape their approaches to helping students improve their reading abilities. As we noted in Chapter One, some current approaches to supporting adolescent reading improvement address students' word-level reading problems as a precondition for working on other levels of reading improvement. Our reading apprenticeship approach is different because our understanding of the nature of reading is different. Here is a brief outline of what we have learned from existing research and our own observation.

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 upper elementary and secondary school teachers at each grade level 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.

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 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 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 essential 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. 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 expository texts or primary source documents.

Fluency begins to develop when students have frequent opportunities to read texts that are easy for them. Multiple rereadings of more difficult texts help broaden a reader's fluency.[2] Perhaps most important for adolescent readers, fluency grows as they have opportunities, support, and encouragement to read a wide range of text types about a wide range of topics.

Reading is situationally bounded. A person who understands one type of text is not necessarily proficient at reading all types. An experienced reader of dessert cookbooks can understand what is meant by "turn out on a wire rack to finish cooling" but may be completely unable to make sense of a legal brief. A political science undergraduate can understand that the phrase "on the other hand I will argue" leads into the author's main point and that the main point will be in contrast to the earlier discussion. But that same undergraduate may feel lost when trying to read the poetry recommended by a friend. A good reader of a motorcycle repair manual can make sense of directions that might stump an English literature professor, but 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 original source history materials on a 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 reader. However, despite contention in many other areas of reading research, when it comes to proficient readers, widespread agreement has emerged

in the form of a set of key habits of proficient readers. This consensus could be summarized as follows:[3]

Good readers are . . .

Mentally engaged,

Motivated to read and to learn,

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 a text, and*
>
> *Coordinating a variety of comprehension strategies to control the reading process.*

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, children's cognitive development is seen as "socially mediated"—that is to say, children learn by participating in activities with "more competent others" who provide support for the parts of the task that children cannot yet do by themselves.[4] These more competent others—parents, siblings, and teachers, for example—gauge their support of the child's participation, encouraging the learner to take on more of the task over time. In doing this—often unconsciously or spontaneously— these guides help children carry out valued activities (talking, cooking, playing ball, reading) more independently over time.

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 structures—the ways in which learners think—are shaped.

Cognitive Apprenticeships

This view of socially mediated learning applies not only to activities with observable components such as tying shoes or skating or cooking. It

applies equally, and importantly, to activities that are largely cognitive, taking place inside the mind and hidden from view. Researchers working within 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 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 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 adolescents, being shown what goes on behind the curtain of expert reading is especially powerful in helping them gain adult 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 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 proficient reader, someone who is willing to make the invisible visible by externalizing his or her mental activity.

Developing Independent, Strategic Readers

In short, our approach to teaching reading in content area classrooms is based on the idea that the complex habits and activities of skillful readers can be taught. But we do not believe they can be taught by a *transmission* approach to teaching, in which students are shown strategies, asked to practice them, and then expected to be able to use them on their

own. Instead 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 a *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 approach, giving an overview of students' learning opportunities in reading apprenticeship classrooms.

Dimensions of Classroom Life Supporting Reading Apprenticeships

We have developed the following model to describe what we believe are the four key dimensions of classroom life that are necessary to support adolescent reading development (Figure 2.1):

- *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 readers bring to a text and further develop through interaction with that text

Metacognitive Conversation at the Center

At the center of these interacting dimensions, and tying them together, 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

Dimensions of Classroom Life Supporting Reading Apprenticeship

PERSONAL
DIMENSION

SOCIAL
DIMENSION

METACOGNITIVE
CONVERSATION
(Internal and External)

KNOWLEDGE-BUILDING
DIMENSION

COGNITIVE
DIMENSION
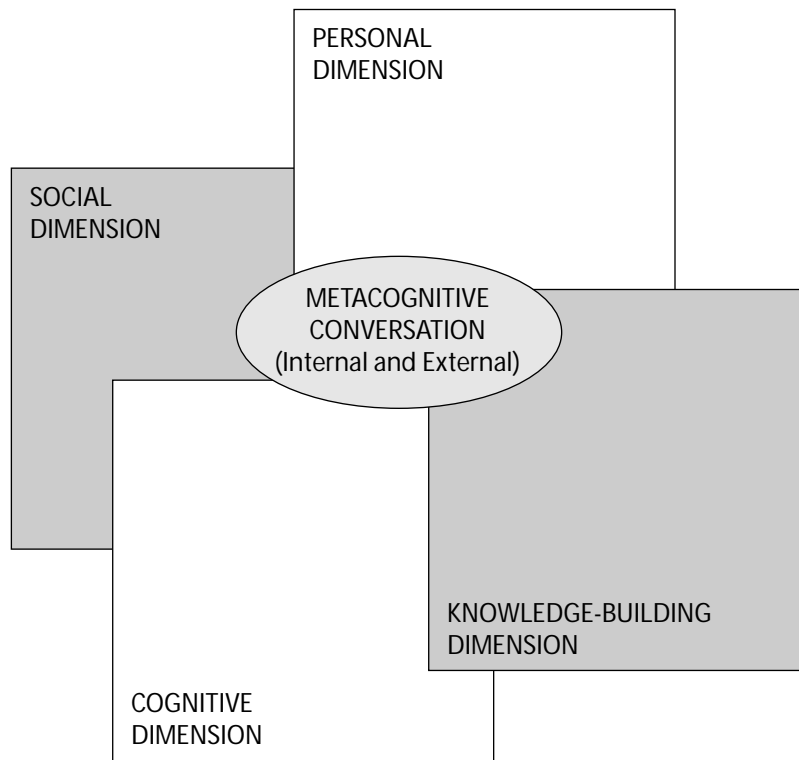
their reading processes, strategies, knowledge resources, and motivations and their interactions with and affective responses to texts.

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."[8] 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 two decades has identified metacognition as key to deep learning and flexible use of knowledge and skills.[9]

The four dimensions of classroom life that support reading apprenticeship are linked by the key enterprise of talking together about making sense of texts. 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 characters in books—students can begin to know—and use and further develop—their own minds.

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.
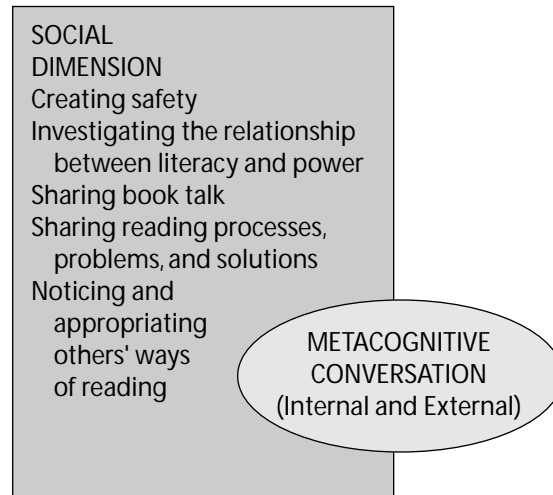
Furthermore, the social, personal, cognitive, and knowledge-building dimensions of classroom life are linked by metacognitive conversation, and each of these dimensions has its own metacognitive component, as described in the following sections.

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 (Figure 2.2). To begin developing this social dimension, 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.

Motivation to read and to work on improving reading is intimately related to students' cultural and peer group identity. The degree to which students see doing well academically as a means of gaining status with their peers varies.[10] For some students, a stigma may be attached to reading better than others in their social group. Other 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 their potential embarrassment. However, for those students who embrace peer cultures that define reading

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FIGURE 2.2

Supporting Reading Apprenticeship—The Social Dimension

SOCIAL
DIMENSION
Creating safety
Investigating the relationship
between literacy and power
Sharing book talk
Sharing reading processes,
problems, and solutions
Noticing and
appropriating
others' ways
of reading

METACOGNITIVE
CONVERSATION
(Internal and External)

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negatively, generating interest in reading is critical. Sharing books on topics that appeal to young people is one way of building interest. Another, equally important way is to engage students in asking questions about reading and literacy and its relationship to political, economic, and cultural power.

Here are three kinds of activities that help teachers establish the social dimension of a reading apprenticeship classroom.

Creating Safety

- Talk about 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.

- Talk about 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 activities without being made to feel uncool.

Investigating the Relationship Between Literacy and Power

- 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 historical disenfranchisement through lack of literacy of particular groups of people in this society.

- Talk about the relationships between literacy and power of various kinds, including economic, political, and cultural power.

Sharing Book Talk

- Share the books teachers and classmates have found exciting, fun, interesting, or important.

- Share the ways teachers and classmates choose books they will enjoy and be able to finish for recreational reading.

- Share teachers' and classmates' responses to the ideas, events, and language of texts.

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.

Students possess a variety of strengths, including diverse background knowledge and experiences. Each can have times when he or she becomes the more knowledgeable other, helping other students gain comprehension of particular texts and acquire strategies and knowledge for the comprehension of many texts. Teachers act as expert resources for reading strategies, 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.

Two categories of activities in particular develop the social dimension of a reading apprenticeship classroom in which students have access to a variety of resources for dealing with reading comprehension problems.

Sharing Reading Processes, Problems, and Solutions

- 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.

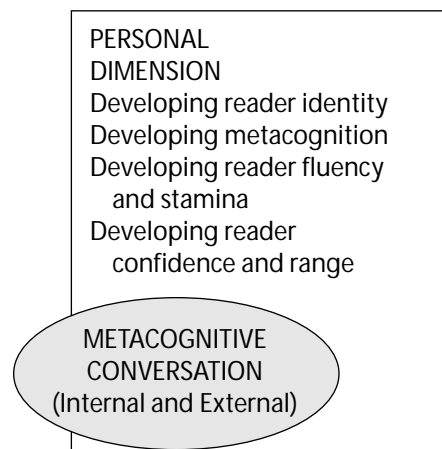**Noticing and Appropriating Others' Ways of Reading**
- Notice the different kinds of background knowledge and experience different readers (teachers and classmates) bring to texts and how that affects the way they interpret what they read.

- 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 in a variety of ways (Figure 2.3). Classroom activities support individual 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

FIGURE 2.3
Supporting Reading Apprenticeship—The Personal Dimension

PERSONAL
DIMENSION
Developing reader identity
Developing metacognition
Developing reader fluency
  and stamina
Developing reader
  confidence and range

METACOGNITIVE
CONVERSATION
(Internal and External)

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.

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.[11] 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.

For most adolescents the desire to feel in charge of important dimensions of their lives such as their clothes, music, and free time is an important developmental issue. 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.

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.

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 identified having a sense of who one is as a reader as an important aspect of motivation.[12] 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 classroom activities can help students see themselves as readers.

Developing Reader Identity

- 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.

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."[13] 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.[14]

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

Developing Metacognition

- 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.

One of the paradoxes 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 when one doesn't feel confident and interested in reading. Our colleagues in the Academic Literacy course and in the Strategic Literacy Network have developed a variety of ways of approaching this very difficult area.

Developing Reader Fluency and Stamina

- 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 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 learner.

- Persist in reading even when somewhat confused or bored with a text.

- Build stamina for reading longer texts and for longer periods of time.

Another paradox 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 impor-
tant way students can build their confidence as readers. Students (and
their teachers) are often unaware of just how much reading they do daily.
The skills, strategies, and knowledge students bring to making sense of
such daily reading as notes from friends or parents, Internet Web pages,
movie and music reviews, song lyrics, and computer manuals are valu-
able resources teachers need to invite into the classroom. Convincing stu-
dents 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 confi-
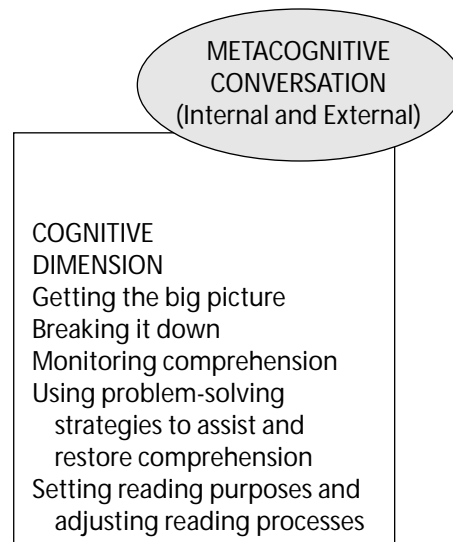dence and expand the range of texts students read.

Developing Reader Confidence and Range

- 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 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 unfa-
  miliar texts.

The Cognitive Dimension

The cognitive dimension of the reading apprenticeship approach focuses
on increasing students' repertoire of cognitive strategies for making sense
of texts (Figure 2.4). Through personal and social activities that engage
students and teachers in thinking about and sharing their reading process-
es, the different ways 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 reper-
toire of strategies students can use independently to control their own
reading processes, and thereby, their comprehension.

A great deal of research since the 1970s 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. This research shows that these
cognitive strategies can be taught to students who do not use them spon-
taneously on their own.[15] And once students learn these strategies and use

FIGURE 2.4

Supporting Reading Apprenticeship—The Cognitive Dimension

METACOGNITIVE
CONVERSATION
(Internal and External)

COGNITIVE
DIMENSION
Getting the big picture
Breaking it down
Monitoring comprehension
Using problem-solving
   strategies to assist and
   restore comprehension
Setting reading purposes and
   adjusting reading processes

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 the support students need to make use of these strategies on their own—will not develop students' strength and independence as readers.

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 give students the ability 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.

Getting the Big Picture
- Skim or scan texts.

- Read through ambiguity and confusion.

- Read ahead to see if confusion clears up.
- Review the big picture to check comprehension.

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 some of these strategies for breaking down the text into their classrooms.

Breaking It Down

- Chunk texts into small segments: for example, break complex sentences into component clauses.
- Identify or clarify pronoun references and other textual connections that aid comprehension.
- Employ close reading of texts (linking interpretations to specific textual evidence).

Over two decades of 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.[16] Here are some activities that teachers can model and guide students to carry out so they can monitor their comprehension while reading difficult texts.

Monitoring Comprehension

- Check to see whether comprehension is occurring.
- Test understanding by summarizing or paraphrasing the text or self-questioning.
- Decide whether to clarify any confusions at this time.

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.[17] 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 and that 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 a way of consolidating and refining their understanding as they read and when comprehension founders.

Using Problem-Solving Strategies to Assist and Restore Comprehension

- 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.

Proficient readers read texts differently depending on their purposes for reading.[18] Purposes drive reading processes. On the one hand you may blitz through the television guide to find the time of a favorite show. On the other hand you may look at the offerings on every channel during a particular time slot, even consulting the movie summaries and reviews in order to make a decision about what you will watch. 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 practice.

Setting Reading Purposes and Adjusting Reading Processes

- 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 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, about the ways particular texts work, or about discipline-specific ways of thinking and using language—both supports reading comprehension and develops as a result of reading. In order 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. And in order for students to access different types of texts, they need to know how to read the conventions, the signposts authors leave, 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 reading, that constitute the practice of science, history, math, and literature. These different types of knowledge—knowledge about content, knowledge about texts, and knowledge about disciplinary ways of thinking—are vital resources supporting comprehension (Figure 2.5).
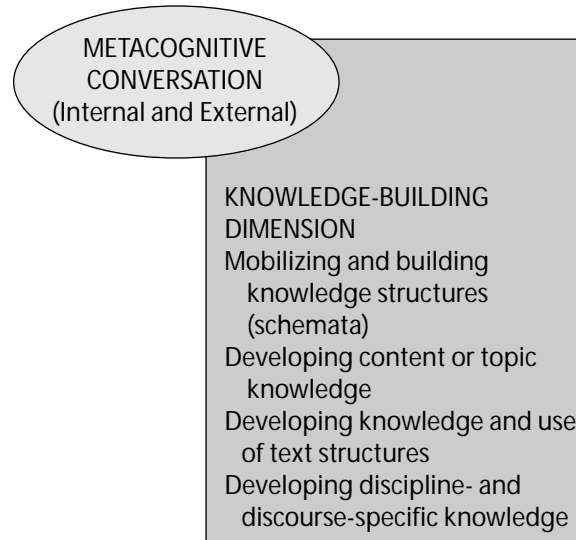
Research on proficient readers' mental processes has led to some key modern understandings about how the mind works, about how people think, even about what we think with. Studies conducted in the 1970s began to demonstrate how readers interact with texts, bringing their own stores of knowledge into play as they attempt to shape possible text meanings.[19] Readers do not passively absorb information from the text, but rather 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 *schemata.* Schemata for particular networks of knowledge and information are activated as individuals read and add to their existing schemata as they encounter new information.[20] In addition, their existing schemata influence the ways they approach and make sense of texts.

Schemata, 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,

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FIGURE 2.5

Supporting Reading Apprenticeship—
The Knowledge-Building Dimension

METACOGNITIVE
CONVERSATION
(Internal and External)

KNOWLEDGE-BUILDING
DIMENSION
Mobilizing and building
  knowledge structures
  (schemata)
Developing content or topic
  knowledge
Developing knowledge and use
  of text structures
Developing discipline- and
  discourse-specific knowledge

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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. The same word, ball, may for another reader call up a competing schema: images of fancy gowns, corsages, tuxedos, limousine rides, and the blushing self-consciousness of a first prom. Proficient readers know they must relinquish any schema that proves 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."[21] 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 out in a restaurant.[22] From experience in ordering meals in restaurants, 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, teachers assist students not only to activate appropriate schemata for particular texts but also to rec-

ognize that texts trigger whole networks of associated knowledge and experiences. These activities can give students necessary practice.

Mobilizing and Building Knowledge Structures (Schemata)

- Recognize the different schemata that can be triggered by a single text.

- Share the schemata individual readers bring to mind while reading a particular text.

- Identify the schemata appropriate for making sense of particular texts.

- Relinquish competing but inappropriate schemata for particular texts.

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.[23] Because prior knowledge is such a powerful resource for comprehension, many kinds of prereading activities, such as giving students prereading guides and brief text summaries before they read the text, have been developed as ways to build schemata, 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.[24] 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.

Developing Content or Topic Knowledge

- 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, perhaps by writing essays on the topic before reading.

- Evaluate the fit between your prior knowledge or conception of a topic and the ideas in the text.

Although prior knowledge about the content of a text is an important resource that readers draw on to further their comprehension, it is not the

only kind of knowledge they need. 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.[25] Proficient readers use their awareness of text structure 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 with urban secondary students we often see students who can follow a typical narrative but are bewildered by expository text structures. Expository texts often rely on scientific 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 vocabularies. Yet ample research shows that when students are taught to identify text structures through the use of such supports as graphic organizers or text previewing, their comprehension increases.[26]

In the knowledge-building dimension of reading apprenticeship classrooms, teachers can assist students with activities like these.

Developing Knowledge and Use of Text Structures

- Identify the ways particular texts are structured.

- Notice patterns in structure across texts of similar kinds.

- Identify the particular kinds of language used in particular kinds of texts.

- 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.

- Use text organization and structure to assist in comprehension of particular texts.

- Preview a text to build a schema for it; notice structural markers such as headings, subheadings, and illustrations.

- Notice that particular words or phrases signal that the text is heading in a particular direction.

- Use signal words and phrases to aid comprehension and to predict the direction particular texts will take next.

Little has yet been studied about effective ways to integrate into reading instruction knowledge about customary ways of thinking and using

language that characterize discourse in particular academic disciplines.[27] Despite the relative lack of research, we feel students need to understand the specific "habits of mind" characteristic of particular academic disciplines[28] in order to make sense of academic texts. We have observed how important it is for our own 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 and text structures alone does not help students who are bewildered by the larger *sense* of a text as 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—which develops in particular social settings. In the past two 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 the ways of participating in literacy activities valued by particular communities of readers and writers.[29] They learn specific "ways with words"[30] 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 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 call *disciplinary ways with words.* In our work in the Academic Literacy course and with our broader network of secondary 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"[31] 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 stu-

dents through think-alouds 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.

Developing Discipline- and Discourse-Specific Knowledge

- Identify the possible purposes that the authors of particular texts may have had in creating these texts.
- Identify the possible audiences particular texts seem to be addressing.
- Identify the functions particular texts serve in particular circumstances.
- Explore the large questions, purposes, and habits of mind that characterize specific academic disciplines.
- Inquire into the ways texts function in particular disciplines.
- Identify the particular ways of using language associated with particular academic disciplines.

In Part Two, we bring the reading apprenticeship approach to life through portraits of classroom practice illustrating the metacognitive conversation and each of the four dimensions. We also present lessons and specific assignments from Academic Literacy and the classrooms of our colleagues in the Strategic Literacy Initiative. 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 we are always doing more, as we 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 young people are engaged, motivated, and clearly gaining power, knowledge, and independence as readers.

Notes

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