

# The Right to Literacy in Secondary Schools

CREATING A CULTURE OF THINKING

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*Foreword by Theodore R.Sizer*



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# Metacognition: How Thinking About Their Thinking Empowers Students

**Jennifer Swinehart**

*IN THIS CHAPTER: Jennifer Swinehart describes how she and her colleague taught their eighth-grade students to be metacognitive thinkers: to use and reflect on the comprehension strategies that good readers use when they read. She shows how she helps students actively make meaning of, with, and through text, and how they become increasingly independent readers, writers, and thinkers. Swinehart emphasizes that students must become metacognitive thinkers if they are to become literate members of society.*

## KEY POINTS

- Students must learn the metacognitive strategies used by proficient readers if they are to take charge of their own learning.
- Metacognition can help students successfully make meaning of difficult texts.
- Students learn metacognition when teachers think about their own thinking and model that thinking for students.
- Students have the right to have access not just to content but to thinking about that content.

As the bell rings, I enter our language arts classroom, herding the last stragglers through the door. Surprised by the sight of 14 extra adults in our room, the 32 kids are mildly distracted but quickly move into work mode with their daily writing. These eighth graders attend Bruce Randolph Middle School, one of the most highly impacted middle schools in Colorado: of our 650 students, 94% qualify for free or reduced-price lunch, 54% are English language learners. On state standardized tests for the 2003–04 school year, our students had the second lowest overall score in Colorado: only 12% of them scored proficient in reading, 7% in writing, and 4% in math.

Test scores aside, my students are amazing individuals. I had the good fortune to teach 20 of them for 2 years, “looping” with them from seventh to eighth grade. About two thirds of the students in this class are native Spanish speakers;

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half of those are formally enrolled in our district's English Language Acquisition program. Since almost a quarter of this class qualifies for special education services, I team-teach with Jill Dreier, the eighth-grade special education teacher.

Today we have guests from the Public Education & Business Coalition: 14 teachers from around the country who are here as a part of the National Lab Project. They are in our classroom observing; later in this chapter I will discuss their insights and questions about our instruction.

After students write in their notebooks, I transition to the focus lesson. "Today we are going to continue reading *Fahrenheit 451* [Bradbury, 1953]. We are still practicing our metacognitive strategies. Who can remind us what *metacognitive* means?"

"It means thinking about your thinking!" Donald shouts out.

"Thank you, Donald," I say. "Remember, we have a collection of tools to help us be metacognitive."

Jill picks up here. "So while you read, write your thinking on sticky notes and then discuss the text page by page. Use your partner as a resource; share your thoughts and try to help each another make sense of the text. You might even ask your partner for clarification if you are confused about a part of the text."

"You will probably find yourself using several different strategies today," I continue. "For example, when I read page 3 yesterday I thought, 'Why is this fireman *burning* books rather than putting out the fire? My schema tells me this is the opposite of what should be happening; I infer that it's important to the story, but right now I'm confused!'"

I remind students that they should pay attention to the strategies as they read, and be prepared to share with me, Ms. Dreier, and their peers when we get to our discussion.

"Are there any questions?" No hands pop up. Eyes looking impatiently around the room indicate that they are ready to begin reading. "Okay, let's get started!"

## METACOGNITIVE STRATEGIES

If you asked the average proficient reader what she does when reading, she might simply say, "I read." But upon further investigation, she would find that she unconsciously processes and problem-solves as she reads, almost like a reflex. We teach our brains to adjust to the different demands of various types of texts, which helps us read an income tax form just as successfully as we read a novel. We may not enjoy both texts equally, but we can read each effectively and strategically.

Metacognitive awareness is important for everyone, but especially for students who are learning English as a second language (ESL). In most schools, ESL or ELL students are required to read content-area texts at grade level in English. If these students have learned strategies for breaking apart a text and building upon their own understandings, they will be more successful in eventually comprehending that text. As "Wenden (1985) was among the first to assert . . . learner strategies are the key to learner autonomy, and . . . one of the most important goals of language teaching should be the facilitation of that autonomy" (Brown, 2000, p. 130). Students' ability to independently self-monitor and think promotes language development and lets students advocate for themselves as readers.

English language learners need even more explicit support with using and applying metacognitive strategies. Because they are reading texts in their nonnative language, additional modeling and examples help them successfully use strategies. Teacher or peer modeling shows them how to focus on key aspects of a text and make choices about the strategies they apply to each content text. In their article, "Think-Aloud Strategy: Metacognitive development and monitoring comprehension in the middle school second-language classroom," McKeown and Gentilucci (2007) cited research by Bereiter and Bird (1985) that found that "students whose teachers modeled think-aloud strategies for recognizing comprehension problems and selecting repair stratagems scored significantly higher on tests of comprehension than those whose teachers did not. [Bereiter and Bird] stressed the importance of following an instructional pattern that included (in this sequence) teacher modeling, direct instruction and explanation, and individual practice" (p. 137). This means that we as teachers need to be diligent in guiding students through the process of metacognition and must intentionally work toward their gradual independence as reflective thinkers.

The thinking strategies that Jill and I use in our classroom are the bedrock of PEBC's work with teachers and students and are based on research by Pearson, Roehler, Dole, and Duffy (1992). They assert that proficient readers identify connections, access schema about text models, recognize when they stop understanding and take steps to repair meaning, discriminate between more and less important ideas when reading, synthesize information within and across different text types and reading purposes, infer to go deeper with textual analysis, and ask questions as they read. We also explicitly include visualization as another way to focus students on text and their thinking.

In our classroom, I name specific techniques students can use as they begin to try to make sense of a difficult text or work through difficult passages when they are confused. These techniques help make students' thinking transparent, which in turn gives them a certain power over their own learning process. A child can monitor what he thinks and how he understands *any* type of text; he can make connections between his science textbook and a movie he saw last spring. He can create a specific question about a math problem instead of groaning, "I don't get this!" I am also purposeful in making think-alouds an ongoing part of our instruction; I believe it is essential for each student to verbalize his thinking about text with peers and to collaborate with others in the quest for comprehension. The narrow focus of these active reading strategies gives him the ability to make meaning from *each* text he encounters.

When I first learned about metacognition, I wanted to experience what it meant. I practiced using thinking strategies when I read and would share passages from the text to show the students my questions, connections, or predictions. "So you can see here," I might point out, "that I was more focused on what this word meant and this person's background. Later on, I wondered more about the long-term effects of this incident and how I might react to the same situation."

I began to realize that although it is important for students to be metacognitive (i.e., consciously aware of their own thinking process), I also needed to emphasize how various strategies were beneficial when reading different texts. By talking to students about the application of their metacognition, they could start identifying

which strategies might be more helpful when reading a social studies textbook versus a magazine.

I discovered through this journey that I was going beyond simply being a language arts teacher. I recognized that I could teach students strategies they could apply to texts in their other classes. I could teach them a life skill, an educational right, that would allow them to control their learning.

Every child deserves to know how he or she thinks and learns. This goes beyond whether they are visual or auditory learners to a deeper relationship between literacy and their rights as citizens. Students need support as they move into an application phase, a phase in which it becomes clear how and why literacy is an essential civil right for any thinking person. To ensure these rights, I consistently approach my teaching from a metacognitive point of view and consider two focus questions in my preparation to teach:

- What do my students deserve to know about their own thinking?
- What is my obligation to teach them so that they can monitor their own thinking before, during, and after they read?

## ENCOURAGING METACOGNITION

Between spurts of silent reading and hushed discussion, Jill and I circulate to pairs of students throughout the room. When I am not talking with a group, I eavesdrop on their conversation; I hear lots of questions being asked, main ideas being identified, and connections being made to the book. Today one discussion that I hear repeatedly centers on a single word in a passage from *Fahrenheit 451*, which initially might seem insignificant in the scope of the novel:

He opened the bedroom door.

It was like coming into the cold marbled room of a *mausoleum* after the moon has set. Complete darkness, not a hint of the silver world outside, the windows tightly shut, the chamber a tomb world where no sound from the great city could penetrate. The room was not empty. (Bradbury, 1953, p. 11; emphasis added)

During our closing meeting that day, we spent a lot of time talking about the word *mausoleum*.

"One place that I really struggled today was when I got to the word *mausoleum*," shares an ELL student, Allyson.

"How many of you had difficulty when you got to *mausoleum*?" asks Jill.

Hands shoot up all around the room, coupled with shouts of "I did!" and "Me too!"

I ask, "Who would like to share what their group thought it meant? Right now don't worry if you are right or wrong, just share what you discussed and your thinking behind your answer." Immediately four or five pairs look at each other and raise their hands.

"We thought it was like a museum because *mausoleum* kind of sounds like *museum* and we were visualizing a big marble room like in a museum we've visited," Katie, an ELL student, says. One reason Jill and I explicitly teach visualiza-

tion as a metacognitive strategy is that we have found it especially beneficial for many ELL students, since it scaffolds other strategy usages.

"Great job!" praises Jill. "It was smart thinking to picture the word based on other descriptions Ray Bradbury shares with us. You also visualized and connected your schema to the word to help you figure out what you thought it meant. Who else would like to share?"

Another student adds, "Antonio and I thought of a place where people died because we saw the word *tomb* later in the paragraph. But we still don't know—is it like a cemetery or a hospital?"

"I think a cemetery because it makes more sense," Larry replies.

"Tell us more—what do you mean 'it makes more sense?'" I probe.

"Well, the next part of the story is about how Montag's wife has overdosed on sleeping pills. It doesn't sound like she is in a hospital when she overdoses, it sounds more like she is in a place full of death. I think Ray Bradbury says she is in the bedroom later, and that made me think it just sounded like a cemetery with this dead body in it."

"Nice explanation, Larry. Any other definitions that your group discussed that you'd like to share?" I ask the class.

Jill and I never revealed a "dictionary definition." But as we facilitated the class discussion, we affirmed our students' inferences.

## TEACHING STUDENTS THE TOOLS OF THINKING

In our debriefing with the PEBC national visitors, we analyzed our instructional choices and the thinking behind them. Each guest teacher shared observations of our classroom work that day, and when we opened the floor for questions, someone pushed: "So what you're saying is that you don't care whether or not the students know what the word *mausoleum* means?"

I thought for a moment. "I think from today's conversation they have an understanding of what *mausoleum* means," I answered, "and they were able to determine that based on their toolbox of strategies. Sometimes I worry that if we focus on simply defining vocabulary, our opportunities to reinforce success in reading texts of this level will be severely limited."

Jill chimed in, "It was so exciting to hear them figuring out what that word meant on their own. We were able to walk around and guide them into discovering a definition for *mausoleum* instead of telling them what it means. When I was listening to them discuss, I heard so many students infer the meaning of this complicated word. And the ones who were wrong were so close that they got the idea." Jill's response perfectly captured the spirit of our thinking in those moments when we were conferring with pairs of students.

I then continued, "Our goal is to help them understand how to read and understand a district-mandated challenging text, especially in terms of the big picture, and for that to happen I need to figure out what I want them to take away. Today's lesson was about thinking, not a lesson on vocabulary, and it was amazing to see how well they did with that specific task."

In McKeown's (1985) research on vocabulary development, she found "that instructional strategies needed to focus on the *process* of deriving word meanings,

in contrast to the *product* of coming up with the right meaning of an unknown word" (quoted in Beck, McKeown, & Kucan, 2002, p. 105). I observed students doing just this: they were inferring from the context, trying to see what the word reminded them of, using the descriptions from the text to visualize what that word might mean. Although *mausoleum* is not a word that students will likely encounter in grade-level texts, in *Fahrenheit 451* it gives readers critical insight into the emotional state of the character (had the word not been essential, I would not have let students spend so much time on it). Understanding this type of detail allows a student to make meaning in a complicated piece of text. Our students showed that they could use metacognitive strategies to guide them in this complex process.

On another day or with another word, we might have delved into a dictionary to find the formal definition. It is not easy to balance implicit discovery with explicit instruction, as both are critical to robust vocabulary development (Kamil, 2003, p. 12). On this occasion, I felt the benefit of letting them trust their thinking was greater; our students showed themselves that with a little metacognition, they can comprehend and interpret challenging text.

## METACOGNITION FOSTERS INDEPENDENCE AND MOTIVATION

The PEBC lab participants seemed satisfied with our answers that day; my own curiosity, however, was piqued. I realized that this issue went beyond vocabulary; it reflected a deeper philosophical belief in what and how children should learn and what it means to be literate.

One of the most important aspects of metacognition is that children become aware of their own thinking. They need to own their use of strategies and should be able to explain how being metacognitive helps them to learn. Research about English language learners by Schmeck (1988) "found that students who perceive themselves as being in control of their own destiny and responsible for their own learning are more motivated to continue learning new skills" (cited in Hernández, 2003, p. 143). Every student who walks into a classroom and feels like she knows how to gauge her own understanding will be willing to take risks and as a result expand her knowledge in that content area.

During another PEBC lab, when visitors were debriefing their observation with our students, one visitor said, "You all seem very independent and in charge of your learning. Does being that independent help you be motivated to learn more and be more successful?"

Ian shouted out, "Yes! It helps me because it makes learning more fun."

Allyson answered, "I feel like I can make more decisions about my learning. I want to know more because I am in charge."

Maria, one of our ELL students, said, "Yes, because in this class I am challenged about my thinking, I am challenged to go deeper. I am used to putting things in simple terms and leaving it like that, but in this class I think more and I'm challenged, so that makes me smarter."

These students' answers speak to the universal value of metacognition and how the process of thinking about one's thinking is crucial for all students in a classroom. Although mine is one particular middle school language arts classroom, the same responses might well be heard from students in high school history or math.

In any content area, engagement increases when students find ways to more actively grapple with text. "Strategy instruction, in which students are taught how to apply specific strategies, may be critical to increasing students' motivation. Guthrie et al. (1996) found that all students who increased their intrinsic motivation across a school year also increased their usage of strategies" (Kamil, 2003, p. 7).

The use of metacognitive strategies can benefit students throughout their education and their lives. "Research shows . . . that students who receive intensive, focused literacy instruction and tutoring will graduate from high school and attend college in significantly greater numbers than those not receiving such attention" (Joftus, 2002, p. 3). If we can teach and encourage children to apply metacognitive strategies to each type of text they read, we will see the long-term benefits of this learned self-advocacy as readers.

We spend our lives as teachers hoping and (in secondary settings) expecting our students will become "adults." We talk to them about how they should act maturely, be responsible for their behavior, and not be influenced by negativity, but rather choose a path toward success. Rarely are students given ample opportunities to practice meeting these expectations. Instead, much time is spent telling students where they fell short.

Citing time restraints and excessive content in the curriculum as our motivating factors, in language arts we may tell them they misunderstood the theme of a book; in chemistry we might be tempted to tell them how to figure out the pH level of a substance rather than wait for them to experiment and draw their own conclusions. What a shame that we as teachers feel we must provide a "correct" answer at the end of every lesson! In Figure 2.1, below, I provide some specific suggestions about how teachers in all content areas can support students in developing their metacognitive awareness.

Even with all the pressures of teaching, we can and should lay the groundwork for our kids to choose their own positive path. A simple way to do this is by helping them learn how to manage and monitor their own thought processes to enable them to understand texts.

## **SUPPORTING STUDENTS' RIGHT TO OWN THEIR THINKING**

I hear many secondary school teachers complain that students are too dependent and will not do anything for themselves. I believe that part of my job is to teach students strategies that will help them become more independent on their road to adulthood. Explicit instruction about metacognitive thinking helps me push kids to take more risks and to work more independently.

Self-reflection and self-assessment should be incorporated into every class. When I grade the writer's notebooks of my students, I ask each student to score his performance using a certain rubric on an entry of his choice. Writing every day is a ritual in our classroom, but it would not be as productive if students were not expected to reflect upon their own growth and monitor their progress from week to week and month to month. In Figure 2.2 I show a specific reflection form I use with my eighth graders that makes this expectation explicit. When I ask students about writing goals for the next quarter, I expect an answer that conveys a sense of seriousness and commitment. For example, Samantha wrote the following: "To

**Figure 2.1 . Metacognition and Literacy in the Content-Area Classroom****Use the vocabulary of thinking with students.**

- "Given that the author of this primary source text uses negative connotations when describing British royalty, I can infer it was written by a colonist."
- "When I read about the subprime-mortgage lending crisis in the newspaper, I had questions about how this connects to our study of percentages and interest rates."

**Model how you use strategies to comprehend your course texts.**

- Show students how you shift your own thinking according to the sophistication of a task.
- Give examples of ways that different strategies can help you make meaning within or between content areas and their texts.

**In one-on-one conferences, ask students to identify strategies most valuable to them.**

- "What did you do when you didn't understand that paragraph?"
- "What did you think about as you read this problem?"
- "Which strategy did you use most often as you read this passage? Why?"

**Assess students' growth in their use of the strategies.**

- Identify sophisticated thinking and how it can help to comprehend the text of your course.
- Keep notes of conferences with students and share their progress in subsequent one-on-one meetings.

**Require students to be metacognitive on formal assessments.**

- "What steps did you take to interpret this graph?"
- "What inferences did you make as you read this prompt?"
- "What did you visualize as you prepared for your presentation?"
- "How did you decide which equation to use for this problem?"

improve my writing next quarter, I know I need to spend time thinking of lots of ideas early on. If I wait to generate ideas until after I have started writing, I tend to get sidetracked and rush to finish an entry. I also would like to expand my vocabulary and learn new words to put in my entry; I'm going to try to use my independent reading book to help me with that."

Class discussions become more powerful when students use metacognition as the foundation for their talk with peers. During our conversation on *mausoleum*, Jill and I saw that our students were invested not just in trying to figure out the right answer, but also in understanding the process that they took to get to that answer. Being literate means not only to read and understand but also evaluate, critique, or interpret what we think of that text.

**Figure 2.2.** Rubric for Students' Self-Reflection on Their Writing

My writing goal for this month was:
I practiced _____ new strategies in my notebook.
0-1            2-3            4-5            6 or more
One entry I would like you to read is:
One thing I did really well on this entry is:
One thing I could do to improve this entry is:
My writing goal for next month is:

By ensuring young people's rights, we protect their opportunity to achieve at the highest levels possible. We also help to increase their motivation, since they know that we expect excellence and that we will support their hard work to get there. Students must feel free to own their own thinking and aspirations, to dream big and achieve bigger; otherwise they will simply do what is asked and nothing more.

As educators, we strive to hold onto the belief that all kids can learn, but we grapple with providing the authentic opportunities for them to think and to own that thinking. Every day when I walk into my classroom, I am emboldened by the realization that it is within my power to make my middle school students believe in themselves as learners. I take pride in the realization that it is my duty to teach these young men and women to think with confidence and to know themselves as readers, writers, and people.

### **HOW TO BEGIN**

- Start with the strategy that is most comfortable for you to teach to your students and build from there.

- Model how not only to mark your thinking but how to *be* metacognitive.
- Practice each strategy with several texts, from various genres.
- Talk to students about how to identify the strategies most helpful or comfortable for reading your classroom texts.
- Encourage students to make metacognition a part of their peer and group discussions.
- Find ways to *see* student thinking: this is as valuable to you as a teacher as it is to your students. Use the informal data you collect from students' sticky notes or notebooks to inform your instruction minute to minute as well as day to day.

### LINGERING QUESTIONS

- How do I balance my belief in process with the need to build students' background knowledge about vocabulary and "right" answers?
- What will ensure that my students will transfer the ability to use strategies to other classes, perhaps with no teacher guidance?
- How can all secondary teachers help students who view themselves as poor readers begin to gain the confidence necessary to recognize their metacognitive thinking beyond the classroom?

### LEADERSHIP PERSPECTIVES

From Diane Lauer, former principal of Conrad Ball Middle School:

- *Student thinking.* Students need to know what they are *doing* in order to understand. How can we effectively teach students to analyze their thinking in order to describe the various components of what they do?
- *Instruction in all content areas.* Swinehart has developed a strong process for modeling and for chunking the procedures in clear, understandable ways. Why are these processes and structures important? And how can they be transferred across content areas so they impact student learning?

From Garrett Phelan, principal of César Chávez Charter School (Capitol Hill campus):

- *Explicit literacy instruction.* If you teach literacy in your core content, you will create a critical thinker in that discipline. You not only have to teach literacy, you have to *know* you are teaching literacy, and you have to teach it intentionally. By ignoring the teaching of literacy in every content area, we foster learned helplessness from our students. We must provide our young people with the tools they need to live enriched lives in a democratic society.
- *Professional development.* Teachers need support to do this work well. They are very literate in their content area, but they themselves have not been trained in teaching literacy to young learners. Therefore, it is essential for a school to create a community of literacy. Teachers need to learn with and from each other about what literacy looks and sounds like schoolwide and within each content area.

**RELATED READINGS**

David Pearson and colleagues' essay "Developing Expertise in Reading Comprehension" (P. D. Pearson et al., 1992) is an articulate piece of research that shares evidence behind each thinking strategy and data that support the notion that being metacognitive helps one become a more literate person.

Harvey Daniels and Steven Zemelman's book *Subjects Matter* (Daniels & Zemelman, 2004) offers a clear overview of the rationale behind content-focused reading instruction and gives practical suggestions for how to teach students to be metacognitive in every classroom.

Regina McKeown and James Gentilucci's article "Think Aloud Strategy" (McKeown & Gentilucci, 2007), focused on English language acquisition students, shares reasons why teaching metacognition is critical to literacy development and gives guidance about introducing specific strategies into the classroom.