

FRAMEWORK FUELS *the* NEED *to* READ

Strategies boost literacy of students
in content-area classes

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A diverse group of urban middle and high school teachers sits around tables in interdisciplinary school teams, silently reading “Father’s Butterflies,” an essay by Vladimir Nabokov. The text’s densely layered sentences, specialized scientific language, and use of multiple languages challenge the fluency of almost all readers in the group.

After reading to themselves, participants share their reading processes. A high school biology teacher offers her way of getting into the text: “I know about classification systems, so I skipped all the long-winded introductory stuff, and went down to the part where he starts talking about classifying butterflies.” An English teacher mentions a connection to the author that helped him with the text: “Nabokov ... I know he can be very ironic, sophisticated, so I was looking for a kind of undertone in the piece, and that helped me through all the scientific stuff.” Some teachers confess that they were tempted to put the text aside because they were



not interested in it, while others admit that they feared that their own lack of reading proficiency or knowledge would be exposed in front of colleagues. Many heads nod.



Middle and high school teachers across academic disciplines face increased pressure to address the Common Core State Standards (CCSS) for English language arts and for

literacy in history/social studies, science, and technical subjects. This means that the responsibility of preparing students to read, write, talk, and think critically about complex texts and across such texts is no longer just the English teacher's job. As the CCSS Initiative web site describes it, "Literacy standards for grade 6 and above are predicated on teachers of English language arts, history/social studies, science, and technical subjects using their content-area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields." Yet, from working with hundreds of secondary teachers around the country, we know that most of them already feel rushed to cover the subject matter content that will be assessed on current high-stakes tests. Many also feel that their primary goal of helping students build deep disciplinary knowledge has been sacrificed to the demands of superficial content coverage. The suggestion that they teach reading and writing as well as disciplinary content seems an impossible addition to an already-packed syllabus. Because most secondary teachers have not been successfully prepared to teach reading in their discipline, many no longer see reading as a viable way for most students to learn. As one teacher said, "I assign reading every night, but, realistically? Very few students actually do it."

Solutions to the challenge of bringing reading into content-area classrooms are more complex than teaching a set of isolated generic reading comprehension strategies such as summarizing and questioning. Indeed, years of research on teaching teachers to use such reading comprehension strategies point to meager returns (Alvermann & Moore, 1991; Durkin, 1978; Snow, 2002). In our work, we have found that beginning at the point of teachers' disciplinary interests and expertise often opens a gateway to instructional transformation that generic comprehension strategies workshops do not achieve.

Since 1995, we have developed a set of inquiry-based professional development tools that leverage teachers' expertise as readers, writers, and thinkers in their own disciplines. Through these inquiries, teachers learn to apprentice their students to the practice of reading and comprehending complex subject matter texts. This text-based inquiry stance is at the heart of our Reading Apprenticeship instructional framework as well as our professional development model. Several randomized controlled studies, as well as a number of qualitative studies, provide evidence that this approach leads to significant changes in teachers' classroom practice, and that these changes, in turn, lead to significant changes in students' academic motivation, content learning, and reading comprehension.

As teachers develop knowledge about disciplinary literacy that they can modify and adapt for the context of their classrooms, they gain confidence in their ability to help students become independent learners in their subject areas.

THE READING APPRENTICESHIP INSTRUCTIONAL FRAMEWORK

The Reading Apprenticeship instructional framework and accompanying professional development help teachers support secondary students to develop positive literacy identities and engage productively with challenging academic texts. Teachers working with the Reading Apprenticeship model often see a dramatic, positive transformation not only in students' literacy, but also in their engagement and achievement in academic disciplines.

Reading Apprenticeship leverages four interacting dimensions of classroom life to support reading development and writing in response to reading:

1. **Social:** The social dimension draws on students' interests in peer interaction as well as larger social, political, economic, and cultural issues. Reading Apprenticeship creates a safe environment for students to share their confusions and difficulties with texts and to recognize their diverse perspectives and knowledge.
2. **Personal:** This dimension builds on strategic skills used by students in out-of-school settings; their interest in exploring new aspects of their own identities and self-awareness as readers; and their purposes for reading and goals for reading improvement.
3. **Cognitive:** The cognitive dimension focuses on developing readers' mental processes, including their repertoire of specific comprehension and problem-solving strategies such as summarizing, questioning, visualizing, and making connections.
4. **Knowledge-building:** This dimension involves surfacing and expanding the knowledge that readers bring to a text and develop further through personal and social interaction with that text. Students build knowledge about word construction, vocabulary, text structure, genre, language, topics, and content embedded in the text.

These four dimensions are woven into subject matter teaching through metacognitive conversations — conversations about *how* students and teachers make sense of what they read. In these conversations, students not only share difficulties and ways of reading, but also work together to clarify confusions and make sense of materials with teacher support. Also central to this framework are:

- Extensive reading, meaning increased opportunities for students to read a wider range of texts on a topic; and
- Writing in response to reading, ranging from simply annotating the text while reading with questions, connections, reactions, and summaries to discipline-based writing.

By attending to these four dimensions of learning and by making reading and thinking processes visible through metacognitive conversations, the Reading Apprenticeship instructional framework:

- Demystifies reading, helping teachers and students see that

reading is complex and that it changes depending on the text and purpose for reading;

- Makes teachers' reading processes and knowledge visible to students and vice versa;
- Helps teachers develop a repertoire of classroom routines for building students' sophisticated literacy skills into content-area learning goals;
- Transfers increasing responsibility to students through routines for text-based social interaction; and
- Builds students' motivation, stamina, and repertoire of strategies for understanding and engaging with challenging academic texts.

These teaching and learning processes support students to become self-regulated, active readers who can use a repertoire of strategies flexibly and appropriately in various content-area reading contexts.

BUILDING SKILL AND WILL

By delving deeply into challenging texts and looking more closely at the varied kinds of thinking processes they use as adult readers, participants in Reading Apprenticeship professional development often come to new ways of thinking about the challenges of the varied types of texts in their subject areas. Teachers are also able to see that they already have many more mental resources than they had realized for apprenticing students to specific hidden rules of reading in their subject area. In a professional community of biology teachers, for example, facilitators lead a variety of reading process analyses, with participants reading an array of challenging science texts to uncover how they read in ways that engage them in thinking scientifically. Metacognitive routines such as think-aloud (Kucan & Beck, 1997) and talking to the text (Jordan, Jensen, & Greenleaf, 2001) help readers slow down and surface their thinking while reading, making the invisible visible. Through these experiences, teachers develop awareness of their own expertise as readers in their disciplines and insight into how they can support their students.

In addition to developing tools and protocols for exploring disciplinary reading, our team has developed video- and text-based case study inquiries that take a close look at individual students' reading and specific Reading Apprenticeship classroom interactions. As participants engage collaboratively in these inquiries, they have opportunities to develop new ways to observe and assess student reading and thinking. By looking closely at case studies and reflecting on these with colleagues, content-area teachers can do what classroom teaching rarely affords: listen closely to how students are thinking and approaching reading and see more of the "promise of the underprepared" (Greenleaf, Hull, & Reilly, 1994). With these new insights, they collaboratively design content-embedded literacy lessons designed to build on students' observed strengths and accelerate literacy growth and content learning simultaneously.

As teachers develop knowledge about disciplinary literacy

that they can modify and adapt for the context of their classrooms, they gain confidence in their ability to help students become independent learners in their subject areas. Inquiries such as the close reading of “Father’s Butterflies” help teachers gain awareness of the invisible processes of skillful reading that they and their colleagues use to make sense of texts. This helps them appreciate the central role of literacy in their discipline and to see, as one teacher reflected, “Teaching literacy in my content area is teaching my content area.”

As their students become more independent disciplinary readers, writers, and thinkers, many teachers express pride in their own changing role. “I see I have changed my opinion about what they can learn from each other,” writes one teacher in an end-of-year reflection. “I would hear them talking in their groups about a topic and ask myself, ‘Where did they learn that? I didn’t teach them that!’ But it’s good, too, that they don’t need me so much.”

EVIDENCE OF EFFECTIVENESS

Several large-scale experimental studies have shown positive effects for this discipline-based literacy model. A multiyear research study funded by the National Science Foundation tested the effectiveness of professional development using Reading Apprenticeship in 9th- and 10th-grade high school biology courses.

Compared with teachers in a matched control group, teachers who participated in 10 days of Reading Apprenticeship professional development over a two-year period were better able to integrate science and science literacy learning in classroom instruction in statistically significant ways. In addition, these teachers offered their students more opportunities to read extended texts with support, more modeling of discipline-based reasoning, more-collaborative learning environments, and more explicit instruction in comprehension strategies than teachers who had not participated in this professional development.

These statistically significant differences in the Reading Apprenticeship teachers’ instructional practices led to significant changes for their students compared to students in the control group classes. Researchers found that in the classes where teachers implemented Reading Apprenticeship, students reported several benefits:

- Significantly higher motivation to read science materials;
- More positive student identity;
- Greater confidence while approaching challenging texts; and

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- Increased use of reading comprehension strategies.

Further, the treatment group students' test scores on state standardized tests in biology, reading comprehension, and English language arts were significantly higher than those of control group students (Greenleaf et al., 2009).

A similar study is under way to investigate the effectiveness of Reading Apprenticeship professional development for 11th-grade U.S. history teachers as well as a new group of 9th- and 10th-grade high school biology teachers. Preliminary results show similar impact on treatment teachers' classroom practices. For example, in U.S. history classes taught by teachers who participated in 10 days of Reading Apprenticeship professional development over a two-year period, students demonstrate more disciplinary reasoning and content knowledge in essays based on reading primary and secondary source documents than students in the control group.

IMPLICATIONS

A number of the broad features of high-quality professional development recognized by the field (Ball & Cohen, 1999; Guskey & Huberman, 1996) are deeply integrated into Reading Apprenticeship professional development. These include:

- Engaging teachers as learners over time;
- Offering teachers the resources necessary to gain skills and knowledge; and
- Creating opportunities for teachers to reflect on their teaching and their students' learning.

In addition, we believe the following features are necessary for professional development to support stronger disciplinary literacy:

- Taking teachers' concepts about themselves, the domain of reading, their subject area, and students as a starting point for inquiry;
- Drawing on teachers' disciplinary expertise and interests to build new conceptions of and practices to support reading to learn; and
- Engaging teachers in practicing inquiry-based instructional routines with texts representative of the complex academic reading and writing that will prepare students for college and careers.

The ideas teachers hold about reading, thinking, talking, and writing in their disciplines and about themselves as teachers of disciplinary literacy deeply inform their approaches to supporting disciplinary reading. To reach the high standards envisioned in the Common Core State Standards, teachers need deeper engagement in the kinds of generative professional development we have described and studied.

We have seen evidence that through text-based and discipline-specific professional inquiries such as those sketched in this article, large numbers of teachers across a broad range of experiences and grade levels build new concepts and new theories about why using such tools is important, even essential, to learning in

the content areas.

Note: The Strategic Literacy Initiative team at WestEd has recently been awarded funding through the Investing in Innovation Fund (i3) from the U.S. Department of Education to scale up their content-specific literacy professional development in four states to reach an estimated 300 schools, 2,800 teachers, 250 teacher leaders, and 400,000 students.

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