

# Common Themes in Teaching Reading for Understanding: Lessons From Three Projects

*Susan R. Goldman, Catherine Snow, Sharon Vaughn*

Instructional practices that successfully support adolescents in reading for understanding include purposeful engagement with text, social support, and new content learning that leverages prior knowledge.

There is considerable consensus that students spend the primary years of school learning to read before progressing in grades 4 and above to reading to learn. Chall (1996) initially described this phenomenon as stages of reading development; she clarified that learning to read differs for beginning and skilled readers, changing as youngsters develop greater proficiency in reading. In Chall's beginning stages, youngsters acquire proficiency in learning to decode and read texts that rely on language within their experience. As they become more proficient as readers, they start reading to learn. Reading becomes a means of acquiring knowledge about the world. Readers typically encounter less familiar and more complicated concepts, sentence structures, and text genres than in early-grades texts. The advent of the digital age and the ubiquitous access to informational media have increased the likelihood that readers encounter material for which they have limited prior knowledge (e.g., Goldman, 2015). Thus, the knowledge and literacy skills that readers need to be successful in reading to learn have transcended what Chall contemplated when first proposing the dichotomy.

## Reading to Learn With Understanding

International and national assessments of reading achievement over the past 35 years have shown stagnant performance in adolescents graduating from U.S. high schools, suggesting a failure to provide students with the

21st-century literacies needed for learning in the content areas (Carnegie Council on Advancing Adolescent Literacy, 2010). The stagnation persists despite promotion of generic instructional practices to promote learning from text, such as summarizing important ideas and using context clues to infer meanings for novel words. Critics of that work have argued for explicitly focusing instruction on disciplinary literacies rather than generic reading comprehension (Goldman & Snow, 2015; Moje, 2008; T. Shanahan & Shanahan, 2008).

Reflecting these concerns, in 2010 the Institute for Education Sciences of the U.S. Department of Education made six awards intended to enhance reading for understanding through integrated programs of research, including the development and evaluation of classroom-based interventions for children (two awards) and adolescents (three awards), as well as assessment (one

**SUSAN R. GOLDMAN** is a Distinguished Professor of Liberal Arts and Sciences in the Department of Psychology and a codirector of the Learning Sciences Research Institute at the University of Illinois at Chicago, USA; e-mail [sgoldman@uic.edu](mailto:sgoldman@uic.edu).

**CATHERINE SNOW** is the Patricia Albjerg Graham Professor at the Harvard Graduate School of Education, Cambridge, MA, USA; e-mail [snowcat@gse.harvard.edu](mailto:snowcat@gse.harvard.edu).

**SHARON VAUGHN** is the Manuel J. Justiz Endowed Chair in Education and the executive director of The Meadows Center for Preventing Educational Risk at The University of Texas at Austin, USA; e-mail [srvaughn@austin.utexas.edu](mailto:srvaughn@austin.utexas.edu).

award). Over 150 investigators were involved in the six projects. Grantees met three or four times a year to share design considerations, research plans, emergent findings, curricular materials, dilemmas and challenges, assessment instruments, and analytic techniques. The Reading for Understanding network enabled the researchers to develop an initial familiarity with one another's approaches but with more emphasis on unique rather than shared characteristics of the various projects. At the final network meeting, where principal investigators presented impact findings, it became evident that there were striking similarities across the three projects focused on adolescents. Although the three projects began with the shared assumption that adolescents need continued access to reading instruction, the projects were founded in theoretically and methodologically distinct approaches to promoting reading for understanding. Also, each had a particular hypothesis about the major reading challenges that adolescents encounter. Consistent with the differences among the hypotheses, each project pursued distinct instructional approaches. Accordingly, it was indeed surprising that similarities emerged. The present article grew out of the desire to document and share common themes reflected in the emergent similarities. Thus, the article reflects a metaview of the work of the three Reading for Understanding projects focused on adolescents.

### **A Shared Assumption: Instruction for Reading to Learn**

The projects began with the shared assumption that even students who by the end of third grade have mastered the technical aspects of reading (e.g., word attack, fluency, comprehension of grade-level text) will encounter new challenges as they move into fourth grade, and thus need instructional support. A significant challenge is that the texts they will be asked to read present unfamiliar content in complex language forms. Many school texts intentionally introduce new topics and concepts to teach new content knowledge. Precisely because the content is new, students' familiar strategy of using their prior knowledge to make inferences and connections, effective for texts about familiar topics and situations, fails.

Another challenge is that content is expressed with novel syntactic constructions, discourse organization, and linguistic markers (Lee & Spratley, 2010; Uccelli, Phillips Galloway, Barr, Meneses, & Dobbs, 2015), as well as unfamiliar, multisyllabic words. This complex of features is characteristic of academic language, which

is a major obstacle to many readers. Some students can bootstrap their oral language and reading skills to process these more complex texts. However, many are stymied, become frustrated, and lose interest in both the topic and reading more generally.

Also, the tasks that students encounter go beyond recalling and summarizing what they have read. They are expected to understand nonliteral language in texts, determine the meaning of unfamiliar words and conceptual constructs, analyze text structures, recognize intertextual references, integrate information from several texts, solve problems using text-based information, critique arguments within texts, and build arguments for claims based on evidence provided in texts (Goldman & Snow, 2015; Greenleaf & Valencia, in press; Lee, 2014). These tasks require comprehension and reasoning skills quite different from those required in the primary grades.

Researchers in our three projects agreed that many students need structured opportunities to acquire the knowledge and skills required to meet these content, text, and task challenges. To assume otherwise implies that students can do much of the work of reading to learn independently, with little instruction, guidance, or feedback from teachers. Such an assumption results in students having limited access to text (Swanson, Wanzek, McCulley, et al., 2015) and limited opportunities to improve their reading for understanding, enhance their content knowledge, and become independent readers and learners (Greenleaf & Valencia, in press). The three projects, though, started from different theoretical orientations and began with different approaches to instruction designed to meet student needs.

### **Three Instructional Approaches to Adolescents' Reading for Understanding**

Each of the projects proposed comprehensive multi-component approaches that were quite different in focus, underlying principles, and instructional designs. For example, Promoting Adolescents' Comprehension of Text (PACT; Vaughn et al., 2013) investigated cognitive and motivational aspects of the reading process with high leverage for improving comprehension (e.g., building knowledge of concepts and vocabulary central to particular content units) and then combined attention to those elements in classroom instruction. Catalyzing Comprehension through Discussion and Debate (CCDD) tested the hypothesis that academic language, perspective taking, and reasoning skills contribute to reading comprehension by evaluating instructional materials

and practices supporting these domains (see Jones et al., 2016; LaRusso, et al., 2016). Reading, Evidence, and Argumentation in Disciplinary Instruction (READI) committed to preparing students for the specialized demands of reading and reasoning in different disciplines, including history, science, and literature (Goldman, Britt, et al., 2016). Accordingly, the READI approach attended to the specialized oral discourse frames, text genres, and academic language that distinguish these disciplines (e.g., Bazerman, 1985; Lee & Spratley, 2010; T. Shanahan & Shanahan, 2008). All three programs required learning from multiple sources of information and demanded analytic, synthetic, and integrative reasoning within and across sources. Table 1 summarizes the key principles and components of each approach.

When these approaches were tested in randomized control trials, they were associated with improved student outcomes. PACT studies showed significant effects even when teachers and content were controlled over a range of learners, including those with identified disabilities (Kent, Wanzek, Swanson, & Vaughn, 2015; Swanson, Wanzek, Vaughn, et al., 2015; Vaughn et al., 2013, 2015). Evaluation studies of CCDD confirmed that the hypothesized mediators (academic language, perspective taking, and reasoning) contributed to reading comprehension (LaRusso et al., 2016). Furthermore, curriculum designed to promote those skills significantly improved scores on the hypothesized mediators and on a challenging reading comprehension assessment (Jones et al., 2016). The READI science intervention improved ninth-grade biology students' construction of explanations of science phenomena from reading multiple text sources relative to performance of students in business-as-usual comparison biology classes (Goldman, Yukhymenko, et al., 2016; Greenleaf, Brown, Goldman, & Ko, 2013).

In addition, robust evidence suggests that these programs can be effectively implemented in a range of districts and schools and with diverse students (Kent et al., 2015; Swanson, Wanzek, Vaughn, et al., 2015; Vaughn et al., 2016). CCDD has shown positive effects on vocabulary outcomes for struggling readers (Lawrence, Capotosto, Branum-Martin, White, & Snow, 2012). READI studies of literary and history reading in urban schools indicate the promise of the READI approach for improving disciplinary reading and reasoning across a range of student achievement levels (C. Shanahan et al., 2016; Sosa, Hall, Goldman, & Lee, 2016). All three approaches have been successfully implemented with English learners (Goldman, Yukhymenko, et al., 2016; Lawrence, Rolland, Branum-Martin, & Snow 2014; Vaughn et al., 2016).

## Common Themes

As indicated earlier, that all three projects converged on similar practices is particularly unexpected because they began with different conceptualizations of reading for understanding and divergent hypotheses about the malleable factors that could contribute most effectively to improved comprehension. Furthermore, the three projects operated independently and without cross-project input to develop their initial instructional approaches, study their implementation, and refine them to better support reading for understanding. Hence, we were surprised by the emergence and robustness of the similarities, organized and discussed here as common themes. We note, however, that none of the projects aimed to test each theme separately. It has not been shown that simply implementing any or all of the three themes highlighted here would improve reading for understanding outcomes; we think it likely that they will be effective only if integrated into a larger program of well-designed instruction.

These are the three common themes:

1. Students purposefully engage with and actively process multiple forms of texts (e.g., traditional verbal, digital, static, and dynamic visuals).
2. Instructional routines incorporate social support for reading through a variety of participation structures (e.g., pair-share following individual reading, small- and large-group discussions, team-based learning).
3. Instruction supports new content learning by leveraging prior knowledge and introducing key constructs and vocabulary.

Although teachers and educational leaders might recognize these themes as well-known elements in effective literacy instruction, instructional enactment of them is rare in most classrooms, especially those that serve adolescent learners (e.g., Vaughn et al., 2013). The emergence and interdependence of these themes in the three otherwise quite different projects underscore how crucial it is for the themes to be enacted not in isolation from one another but in well-theorized combination.

### ***Theme 1: Active, Purposeful, Engaged Reading***

The literature on learning highlights the importance of active processing rather than passive reception of information (e.g., Bransford, Brown, & Cocking, 2000). Considerable evidence indicates that engaging

**Table 1**  
**Key Features of Each Project**

### **Promoting Adolescents' Comprehension of Text**

#### *Components*

- Comprehension canopy: Inquiry question to provide an advanced organizer for prior knowledge and to motivate engagement
- Vocabulary building through essential words
- Critical readings provide background knowledge and engaging topics relevant to the inquiry question.
- Team-based learning: Students are provided study questions with assessments to determine individual expertise, with group discussions following to determine group response.
- Whole-group discussion confirms knowledge and provides further information for the teacher to supplement students' comprehension.

#### *Instructional resources*

- Curricular materials are available on The Meadows Center for Preventing Educational Risk website: [www.meadowscenter.org](http://www.meadowscenter.org).

### **Catalyzing Comprehension through Discussion and Debate: Word Generation**

#### *Conceptual tools and principles*

- Topic to debate: Each unit is introduced with a debatable question to engage student interest and focus reading activities.
- Readers Theatre: The Readers Theatre introduces the central dilemma and the target concepts/vocabulary in a context familiar to the students.
- Key words: Six to eight central concepts/vocabulary items are introduced in each unit, used repeatedly across reading passages, and targeted for turn-and-talk activities.
- Perspective taking: Different characters' perspectives on current (Readers Theatre) and historical (other readings) phenomena are analyzed, generating grist for argumentation.
- Argumentative reasoning: The argument structure is taught explicitly, modeled in the Readers Theatres, and practiced in oral and written activities.
- Readings to address debate: Multiple texts are provided, in different genres and forms, to offer evidence on both sides of the targeted dilemma.
- Discussion of readings: Students are tasked to discuss and analyze the readings in small groups and to answer oral and written discussion questions.

#### *Instructional resources*

- Curricular materials are available for downloading on the Word Generation website: [www.wordgen.serpmedia.org](http://www.wordgen.serpmedia.org).
- Video and document supports for professional development are also available on the Word Generation website.

### **Reading, Evidence, and Argumentation in Disciplinary Instruction**

#### *Conceptual tools and principles*

- Learning goals that integrate learning to read for understanding with learning disciplinary content and inquiry practices
- Sequencing strategies for building student stamina, strategies, and knowledge
- Everyday knowledge as a source for building engagement, strategies, and criteria for evaluating arguments

#### *Instructional resources*

- Collaborative teacher–researcher iterative design and implementation of the project's inquiry modules, using interpretive heuristics and disciplinary reasoning in the following:
  - Literary analysis to identify rhetorical devices (e.g., symbolism) and themes (e.g., coming of age)
  - History (e.g., U.S. history, ancient and modern world history, current events)
  - Science (e.g., reading models, water purity, homeostasis, MRSA)
- Instructional supports involving task, text, and activity structures:
  - Metacognitive conversation routines to share and solve challenges to reading comprehension
  - Discussion-based pedagogies to make sense of texts and disciplinary content
  - Inquiry tools and processes
  - Heuristic supports for disciplinary argumentation through talk and writing
  - Formative assessment tasks and tools for comprehension and argumentation in literature, history, and science
- Examples of enacted modules with teacher commentaries are available on the Project READI website: <https://www.projectreadi.org>.

in reading develops reading skills, builds vocabulary and content knowledge, and familiarizes readers with content area, discipline-specific language forms and discourse structures (see Goldman & Snow, 2015). Paradoxically, in the face of adolescent readers who seemingly cannot, will not, or do not read the textbooks, teachers often relieve students of the reading task. Rather, teachers employ other means of imparting content, such as reading the text aloud to the students, playing audio or video recordings, or lecturing on the key content. Although these strategies may ensure that the content is covered, they deny students opportunities to learn to read content area text, thus failing to support reading development (Blumenfeld, 1992; Doyle, 1983; Swanson, Wanzek, McCulley, et al., 2015).

Having students engage with text was a key goal of all three programs. Each went to considerable lengths to support and facilitate student engagement with topics and texts. A key to engagement was establishing an explicit purpose for reading beyond answering end-of-chapter questions or passing a test. Purpose was established through essential questions or explicit unit goals connected to students' lives. Abstract or remote topics were often introduced with age-relevant analogs so students could exploit familiarity and connections to their own lives. For example, a unit on the Peloponnesian War was introduced with a text about high school rivalries (CCDD), and consistent with Lee's (2007) cultural modeling framework, a unit on symbolism in poetry began with examples of nonliteral language from ads and popular song lyrics (READI). In other cases, new topics were introduced with videos, photos, or other accessible sources of background information or with discussion designed to activate relevant prior knowledge (PACT). Yet another technique was to launch text-based inquiry by posing questions about controversial topics or presenting seemingly discrepant or paradoxical situations (CCDD and READI).

Explicit purposes for reading position students to approach text intentionally, seeking information or considering a controversy. Thus, students could evaluate when they had sufficient information to address the guiding question. For example, in PACT, questions were thought of as comprehension canopies, providing an overarching focus for learning across a set of lessons. Teachers guided students to return frequently to these questions to assemble knowledge acquired as the unit progressed. In READI, texts were sequenced to juxtapose potentially conflicting information, thereby initiating a process of questioning leading to new inquiry purposes. In CCDD, curricular units began with a text that offered evidence on both sides of the organizing

question (see Duhaylongsod, Snow, Selman, & Donovan, 2015).

Sustaining interest during reading was a challenge, even after an engaging start, especially when students were faced with complex, abstract texts. Strategies to foster continued engagement with text included the comprehension canopies and text sequences described previously, highly focused debates (CCDD), and peer participation structures such as pair-share (READI) or team-based learning (PACT), in which students discussed the texts they were reading, what did not make sense to them, what was relevant to their task, and what else they needed to know.

Each project addressed text complexity with various approaches. In some cases, curricular texts were produced by the project; in others, adaptations were made to standard texts. However, all projects used non-textbook texts as the focus of reading. Most textbooks, with their "just the facts" orientation, discourage active engagement. For example, in CCDD, students received multiple brief texts about each topic rather than longer texts that often frustrated them. PACT teachers provided brief, content-building texts directly related to topics discussed. Students worked in teams of four to six, using these texts to justify answers to questions. In READI, texts were sequenced in increasing difficulty to prepare students for comprehension of later texts in the sequence. Earlier texts were shorter and built information gradually and cumulatively, including technical and discipline-specific vocabulary. Text sequences were intentionally designed so students could answer the unit's essential questions and build arguments from evidence accumulated over the text set. (See Sosa et al., 2016, for an example of text sequencing in literature.)

## ***Theme 2: Social Support for Reading Through Various Participation Structures***

Reflecting the association between structured discussions and content learning, all three programs incorporated tasks that students completed together. Typically, all students participated in organized groups. Outcomes addressed both independent learning and group accountability. Critical to success of this group work were purposeful tasks, individual and group accountability, and opportunities to discuss, debate, and write. The group tasks also required that students use text as the main data source for addressing the questions or completing the activity. For example, CCDD's materials required small groups or partners to identify perspectives and claims in text as a regular activity. Debate preparation served to develop arguments based

on textual claims while deepening engagement in text reading (Duhaylongsod et al., 2015; Lawrence, Crosson, Paré-Blagoev, & Snow, 2015). PACT (Vaughn et al., 2013, 2015) used team-based learning (Wanzek et al., 2014) to achieve the same discourse-based comprehension goals.

READI called for discussion structures designed to put the intellectual work in the hands and minds of the students. They were encouraged to grapple together with what the text was saying, with the ideas, the author's intent, the relevance of information to the essential questions, and any other conundrums that arose. Discussions surfaced common struggles and successes in comprehending content area texts.

A focus of whole-class discussions in all three projects was to make public the meaning-making process. Students discussed similarities and differences in their thinking and responses to texts. Whole-class discussions provided teachers with opportunities to model the use of academic language and disciplinary discourse forms, to teach essentials related to content, and to push students' thinking forward using various discourse moves (e.g., revoicing, prompting for elaboration, highlighting or juxtaposing responses that may be puzzling or contradictory; O'Connor, Michaels, & Chapin, 2015).

### ***Theme 3: Knowledge Building: Prior Knowledge and Instruction in Key Concepts and Vocabulary***

All three projects sought to enhance adolescents' skills for learning new content knowledge from text. The texts and topics were aligned with curricular standards for the subject area and grade level in which the approaches were implemented. Attention specifically focused on concepts and vocabulary critical to the discipline and topic. These concepts were presented multiple times within units to ensure familiarity, develop fluency, and deepen students' understanding of their centrality to the topic.

Furthermore, the projects all recognized the importance of connecting and integrating new learning with prior knowledge, leading to deeper understanding of the new information and longer term retention (Bransford et al., 2000). Prior knowledge was activated through varied mechanisms, some of which overlapped with those for enhancing engagement, such as discussing familiar contexts that manifest analogous ideas and then explicitly linking to relevant aspects of the new material. Consistent with the focus on purposeful reading, the new knowledge was used to accomplish some explicit purpose beyond answering end-of-chapter questions or writing essays that demonstrated recall of facts and dates. Students were asked to use the information to make a

decision and justify it, solve a problem, or put forth an explanation for some event or natural phenomenon.

Learning goals for all three projects extended beyond content to knowledge of academic language and forms of argument. Thus, the purpose of learning new information in these projects was typically to support claims orally and/or in writing with relevant evidence and clear reasoning that drew on information in texts that students read and discussed, rather than simply to summarize or repeat memorized information.

## **Implementation Examples**

Each of the three projects approached designing curriculum and instruction in ways particular to its context and content, and thus the common themes were realized in somewhat distinctive ways in instructional practice. To illustrate, we present here a brief description of one social studies curricular unit from each program. We highlight how the three themes were realized in each.

### **PACT**

Eighth-grade social studies classes implementing the PACT materials and instructional elements addressed three units aligned with standards for "American History: The Gilded Age," imperialism and World War I, and the 1920s. The following examples are from the two-week unit on the Gilded Age.

**Comprehension Canopy and Springboard.** First, teachers introduced the unit, both accessing and activating prior knowledge and implementing springboards to engage students. Overarching questions served as a comprehension canopy to connect text reading, activities, and teachers' presentations, as in the following used to introduce a unit on the U.S. Gilded Age between 1865 and 1900:

- "What was life in America like prior to the industrial revolution?"
- "What were Americans' social and work worlds like?"

These questions were available throughout the unit so students could expand their responses as they acquired information from text and other sources.

Second, teachers were provided with several opportunities to implement springboard activities aimed at engaging students and preparing them for key learning targets. In this unit, students watched a brief video of an immigrant at Ellis Island and considered why a person might immigrate to the United States.

**Essential Words.** Teachers received guides identifying the essential words students needed to adequately read texts and understand content in this unit. Teachers pretaught the essential words, which were used in subsequent texts, discussions, and responses to assessments. For example, teaching the essential word *industrialization* included corresponding pictures, related words, examples of usages, and activities requiring students to turn and talk with a partner using the essential word.

**Critical Readings.** Readings addressing key issues and understandings asked students to make connections, make inferences, and summarize key ideas. For example, one of the texts was approximately 400 words and addressed political machines, that is, unofficial organizations associated with political parties that responded to the rapid urbanization during this time. Students were asked to think about how these political machines may have both supported individuals in the cities and interfered with them.

**Team-Based Learning.** Teachers assigned students to teams of four to six to work cooperatively in using prior class discussions and texts to answer essential questions about the unit. Teams were required to cite evidence from the texts. Working in teams was designed to assure that everyone understood the keywords and content as each student and the team was provided with instructional assessments to determine their knowledge. Following the team work, the teacher led a class discussion about each of the questions, encouraging teams to provide their answers and justifications for them.

## CCDD

Sixth-grade social studies units developed by the CCDD team addressed topics in ancient civilizations. One unit focused on Greece was entitled “Was It Better to Be an Athenian or a Spartan?” The organizing open-ended question was a feature of all Word Generation units; these questions were designed specifically to be debatable rather than having one correct answer and, thus, to engage students in scrutiny of text to accumulate evidence on both sides. The Athens versus Sparta topic was introduced (as are all Word Generation social studies and science units) with a Readers Theatre. In this example, students read a discussion among fictive middle school students about the merits of two high schools: one that focused on academic achievement but had slack athletic training and bad sports teams and one that had demanding coaches, strenuous team practices, and an excellent sports record but less academic focus. The goal of the Readers Theatre was

to demonstrate how social units (schools or city-states) can organize themselves around different priorities, with consequences for people’s lives. Active processing of the Readers Theatre occurred as the sixth graders worked in small groups to extract pro and con arguments about each school and identify which speakers made them.

Six key terms (*democratic, elitist, competitive, ostracize, individualism, and conformity*) introduced in the Readers Theatre were then defined, each with a partner turn and talk again requiring active processing. Subsequently, students read several brief texts about Greek city-states, including Sparta and Athens, which they mined for information in support of claims about the advantages of living in one city or the other, from the point of view of various respondents such as soldiers, women, or slaves. The keywords and concepts were used repeatedly in these and other unit texts. Notes taken about evidence in favor of or against each city were entered into a structured format (claim regarding better city, list of facts with warrants, anticipated counterarguments, and possible responses) in preparation for a whole-class debate. Students applied a rubric to their own and the other team’s performance during the debate, and the next day they were asked to write a “taking a stand” essay, arguing with evidence for their position on which city would be preferable.

These various activities were typically distributed over a week of 50-minute classes. Perspective taking and argumentative reasoning were taught explicitly and practiced recurrently; conceptually relevant academic vocabulary was taught explicitly, and in some units academic sentence starters were provided for the debate and writing activities. Duhaylongsod et al. (2015) provided a longer discussion of the design of each of the elements.

## READI

READI differed from CCDD and PACT in that it did not produce curriculum. Rather, READI engaged in close design collaborations with classroom teachers to develop and map principles of the READI approach and the READI learning goals onto district- and school-mandated content units. (See Goldman, Britt, et al., 2016, for a description of the design process for the approach and learning goals.) Here, we present an eighth-grade teacher’s module intended to familiarize and engage students in using heuristic inquiry practices of historians (Wineburg, 1991). The module also illustrates building on students’ prior knowledge by taking a familiar current event as the topic. (See C. Shanahan et al., 2016, for an illustration of READI history learning goals mapping

across a year in an 11th-grade American History AP course.)

This eighth-grade module concerned the race riots in Ferguson, Missouri, and was implemented over a one-week period. It had the purpose of introducing students to reading closely with a historical lens. The teacher began the module with the essential question “What were some of the causes of the riots in Ferguson, Missouri?” Framing the question in this way allowed students multiple pathways to explore this event. Students then viewed a brief video clip after noting that a news station had put it together. Following the video, students did a premodule quick-write assessment responding to the essential question. The lesson ended with a whole-class discussion in which students filled in the classroom chart “Our Questions About Ferguson.” Over the next three days, students used a sequence of three activities to examine three text resources: previewing and noting the source of the text, closely reading the source with a focus on corroboration and addressing the essential question, and individually writing about the essential question in relation to the text. Each resource presented a different perspective on the events in Ferguson: five eyewitness accounts of the shooting; an article from the Tea Party News Network suggesting that the police officer was attacked prior to shooting; and a news report in *The New York Times* of both accounts, presenting the “facts” as known, the status of the investigation, and next steps.

After students read all the sources, the teacher led a class discussion in which students reviewed the sources and discussed how much they trusted each one, an activity that led to a set of criteria for considering trustworthiness of sources. The module ended with students brainstorming about possible causes of the event, taking into consideration all the information they had read. The teacher then introduced and explained three key categories related to historical frameworks (social, political, and economic), and the class discussed which ones applied to this inquiry and why they thought so. Working as a whole group, then in small groups, and finally independently, students constructed maps to show the causes of the riots. The class ended with a quick-write to address the essential question.

In this brief module, students were introduced to the epistemology of history and the importance of considering the perspective of each source when closely reading conflicting accounts of the same event, criteria for trustworthiness of sources, and a process for sorting through and relating multiple possible causes for an event. These ideas were then carried into the next topical unit.

## Conclusion

We present these three examples not to promote the use of these specific materials or approaches but to illustrate a range of ways in which the common themes can be realized in classroom instruction. That these commonalities emerged across three different projects with distinct theoretical commitments and goals attests to the importance and robustness of the themes. Indeed, our findings suggest that the distinction between learning to read and reading to learn no longer serves teachers or their students. Returning to the assumption shared across the three projects, instruction in reading needs to continue when students move into the content area learning and the demanding texts and tasks that confront them in middle and high school. Content area teachers cannot assume that the strategies and processes that readers acquired in the elementary grades are sufficient for students to make sense of content area materials. Instead, the three approaches discussed herein prioritize text- and discourse-based approaches to comprehension, with varying emphasis on and attention to discipline-specific texts and discourse. The different degrees of attention to distinctions across disciplines in the what, why, and how of reading represented across the three programs reflect a lack of consensus in the field on the right mix of generic and discipline-specific reading approaches for students of varying ages and abilities. This issue is ripe for further research.

The convergence across the three programs on common themes in instructional practices emboldens us to suggest that they should be incorporated into any effort to promote reading comprehension. Of course, there are many constraints on the situations in which any of these specific approaches could be credibly implemented. There are also differences among them in feasibility, ease of use, and acceptability to teachers.

Nonetheless, we conclude that students in grades 4–12 require continued instruction in reading. Although many have mastered the foundational skills of reading (e.g., word reading, fluency), most are unable to independently acquire the proficiency needed to read and learn from the increasingly complex texts required across all content areas. We are optimistic that the common themes we describe in this article will serve as a productive structure for educators as they consider how to maintain reading support through the secondary grades.

## NOTES

The findings reported here were based on research supported by the Institute of Education Sciences, U.S. Department of Education as part of the Reading for Understanding Research Initiative. The opinions expressed are those of the authors and



## TAKE ACTION!

1. Incorporate a variety of text and discourse forms into secondary classes, beyond the textbooks that may be the default, and use the varied texts as sources of data for supporting responses to questions and argumentation. Social studies and science curricular materials are available on the PACT, CCDD, and READI websites, and literature resources are available on the READI site (see Table 1).
2. Ensure that students do some reading in each content area every day.
3. Use grouping structures to support positive peer interactions, writing, and oral discourse.
4. Teach vocabulary related to central concepts, as well as the academic-language structures needed to discuss concepts.
5. Conduct teacher inquiries into the reading, reasoning, and writing practices that they themselves employ when reading texts in their content areas. Increasing awareness of their own literacy and sense-making processes informs how teachers make their own reading, writing, and reasoning practices visible to students.

do not represent views of the Institute of Education Sciences or the U.S. Department of Education. Funding received is listed in author order: Project READI was supported by grant R305F100007 to the University of Illinois at Chicago, CCDD by grant R305F100026 to the Strategic Education Research Partnership, and PACT by grant R305F100013 to The University of Texas at Austin. We also wish to acknowledge and celebrate the highly collaborative teams of researchers, designer/developers, and practitioners without whom these projects could not have been realized.

## REFERENCES

- Bazerman, C. (1985). Physicists reading physics: Schemaladen purposes and purpose-laden schema. *Written Communication*, 2(1), 3–23. doi:10.1177/0741088385002001001
- Blumenfeld, P.C. (1992). The task and the teacher: Enhancing student thoughtfulness in science. In J. Brophy (Ed.), *Advances in research on teaching: Vol. 3. Planning and managing learning tasks and activities* (pp. 81–114). Greenwich, CT: JAI.
- Bransford, J.D., Brown, A.L., & Cocking, R.R. (2000). *How people learn*. Washington, DC: National Academy Press.
- Carnegie Council on Advancing Adolescent Literacy. (2010). *Time to act: An agenda for advancing adolescent literacy for college and career success*. New York, NY: Carnegie Corporation of New York.
- Chall, J.S. (1996). *Stages of reading development* (2nd ed.). Fort Worth, TX: Harcourt Brace.
- Doyle, W. (1983). Academic work. *Review of Educational Research*, 53(2), 159–199. doi:10.3102/00346543053002159
- Duhaylonsod, L., Snow, C.E., Selman, R., & Donovan, S. (2015). Toward disciplinary literacy: Design principles for curriculum to support both teachers and students in urban middle schools. *Harvard Educational Review*, 85(4), 587–608. doi:10.17763/0017-8055.85.4.587
- Goldman, S.R. (2015). Reading and the Web: Broadening the need for complex comprehension. In R.J. Spiro, M. DeSchryver, M.S. Hagerman, P. Morsink, & P. Thompson (Eds.), *Reading at a crossroads? Disjunctures and continuities in current conceptions and practices* (pp. 89–103). New York, NY: Routledge.
- Goldman, S.R., Britt, M.A., Brown, W., Cribb, G., George, M., & Greenleaf, C., ... Project READI. (2016). Disciplinary literacies and learning to read for understanding: A conceptual framework of core processes and constructs. *Educational Psychologist*, 51(2), 219–246. doi:10.1080/00461520.2016.1168741
- Goldman, S.R., & Snow, C. (2015). Adolescent literacy: Development and instruction. In A. Pollatsek, & R. Treiman (Eds.), *The Oxford handbook of reading* (pp. 463–478). New York, NY: Oxford University Press.
- Goldman, S.R., Yukhymenko, M., Lawless, K., Britt, M.A., Wallace, P., & George, M., ... Project READI. (2016, April). *Efficacy study of 9th grade READI biology: Design, assessment strategy and findings*. Symposium presented at the annual meeting of the American Educational Research Association, Washington, DC.
- Greenleaf, C., Brown, W., Goldman, S.R., & Ko, M.L. (2013, December). *READI for science: Promoting scientific literacy practices through text-based investigations for middle and high school science teachers and students*. Paper presented at the National Research Council Workshop on Literacy for Science, Washington, DC.
- Greenleaf, C., & Valencia, S. (in press). Missing in action: Learning from texts in subject-matter classrooms. In D. Appleman & K. Hinchman (Eds.), *Adolescent literacies: A handbook of practice-based research*. New York, NY: Guilford.
- Jones, S.M., LaRusso, M., Kim, J., Kim, H.Y., Selman, R., & Uccelli, P., ... Snow, C. (2016). *Experimental effects of Word Generation on vocabulary, academic language, perspective taking, and reading comprehension in high poverty schools*. Manuscript in preparation.
- Kent, S., Wanzek, J., Swanson, E.A., & Vaughn, S. (2015). Team-based learning for students with high-incidence disabilities in high school social studies classrooms. *Learning Disabilities Research & Practice*, 30(1), 3–14. doi:10.1111/ldrp.12048
- LaRusso, M., Kim, H.Y., Selman, R., Uccelli, P., Dawson, T., Jones, S., ... Snow, C. (2016). Contributions of academic language, perspective taking, and complex reasoning to deep reading comprehension. *Journal of Research on Educational Effectiveness*, 9(2), 201–222. doi:10.1080/19345747.2015.1116035
- Lawrence, J., Capotosto, L., Branum-Martin, L., White, C., & Snow, C. (2012). Language proficiency, home-language status, and English vocabulary development: A longitudinal follow-up of the Word Generation program. *Bilingualism: Language and Cognition*, 15(3), 437–451. doi:10.1017/S1366728911000393
- Lawrence, J., Crosson, A., Paré-Blagoev, J., & Snow, C. (2015). Word Generation randomized trial: Discussion mediates the impact of program treatment on academic word learning. *American Educational Research Journal*, 52(4), 750–786. doi:10.3102/0002831215579485
- Lawrence, J., Rolland, R., Branum-Martin, L., & Snow, C. (2014). Generating vocabulary knowledge for at-risk middle

- school readers: Contrasting program effects and underlying growth trajectories. *Journal of Education for Students Placed at Risk*, 19(2), 76–97. doi:10.1080/10824669.2014.958836
- Lee, C.D. (2007). *Culture, literacy and learning: Taking bloom in the midst of the whirlwind*. New York, NY: Teachers College Press.
- Lee, C.D. (2014). The multi-dimensional demands of reading in the disciplines. *Journal of Adolescent & Adult Literacy*, 58(1), 9–15. doi:10.1002/jaal.316
- Lee, C.D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy*. New York, NY: Carnegie Corporation of New York.
- Moje, E.B. (2008). Foregrounding the disciplines in secondary literacy teaching and learning: A call for change. *Journal of Adolescent & Adult Literacy*, 52(2), 96–107. doi:10.1598/JAAL.52.2.1
- O'Connor, C., Michaels, S., & Chapin, S. (2015). "Scaling down" to explore the role of talk in learning: From district intervention to controlled classroom study. In L.B. Resnick, C. Asterhan, & S.N. Clarke (Eds.), *Socializing intelligence through talk and dialogue* (pp. 111–126). Washington, DC: American Educational Research Association.
- Shanahan, C., Heppler, J., Manderino, M., Bolz, M., Cribb, G., & Goldman, S.R. (2016). Deepening what it means to read (and write) like a historian: Progressions of instruction across a school year in an eleventh grade U.S. history class. *The History Teacher*, 49(2), 241–270.
- Shanahan, T., & Shanahan, C. (2008). Teaching disciplinary literacy to adolescents: Rethinking content-area literacy. *Harvard Educational Review*, 78(1), 40–59. doi:10.17763/haer.78.1.v62444321p602101
- Sosa, T., Hall, A.H., Goldman, S.R., & Lee, C.D. (2016). Developing symbolic interpretation through literary argumentation. *Journal of the Learning Sciences*, 25(1), 93–132. doi:10.1080/10508406.2015.1124040
- Swanson, E., Wanzek, J., McCulley, L., Stillman-Spisak, S., Vaughn, S., Simmons, D., ... Hairrell, A. (2015). Literacy and text reading in middle and high school social studies and English language arts classrooms. *Reading & Writing Quarterly*, 32(3), 199–222.
- Swanson, E., Wanzek, J., Vaughn, S., Roberts, G., & Fall, A.M. (2015). Improving reading comprehension and social studies knowledge among middle school students with disabilities. *Exceptional Children*, 81(4), 426–442. doi:10.1177/0014402914563704
- Uccelli, P., Phillips Galloway, E., Barr, C.D., Meneses, A., & Dobbs, C.L. (2015). Beyond vocabulary: Exploring cross-disciplinary academic-language proficiency and its association with reading comprehension. *Reading Research Quarterly*, 50(3), 337–356. doi:10.1002/rrq.104
- Vaughn, S., Martinez, L.R., Wanzek, J., Roberts, G., Swanson, E., & Fall, A.M. (2016). Improving content knowledge and comprehension for English language learners: Findings from a randomized control trial. *Journal of Educational Psychology*. Advance online publication. doi:10.1037/edu0000069
- Vaughn, S., Roberts, G., Swanson, E.A., Wanzek, J., Fall, A.M., & Stillman-Spisak, S.J. (2015). Improving middle-school students' knowledge and comprehension in social studies: A replication. *Educational Psychology Review*, 27(1), 31–50. doi:10.1007/s10648-014-9274-2
- Vaughn, S., Swanson, E.A., Roberts, G., Wanzek, J., Stillman-Spisak, S.J., Solis, M., & Simmons, D. (2013). Improving reading comprehension and social studies knowledge in middle school. *Reading Research Quarterly*, 48(1), 77–93. doi:10.1002/rrq.039
- Wanzek, J., Vaughn, S., Kent, S.C., Swanson, E.A., Roberts, G., Haynes, M., ... Solis, M. (2014). The effects of team-based learning on social studies knowledge acquisition in high school. *Journal of Research on Educational Effectiveness*, 7(2), 183–204. doi:10.1080/19345747.2013.836765
- Wineburg, S.S. (1991). Historical problem solving: A study of the cognitive processes used in the evaluation of documentary and pictorial evidence. *Journal of Educational Psychology*, 83(1), 73–87. doi:10.1037/0022-0663.83.1.73

## MORE TO EXPLORE

- Fang, Z., & Schleppegrell, M.J. (2010). Disciplinary literacies across content areas: Supporting secondary reading through functional language analysis. *Journal of Adolescent & Adult Literacy*, 53(7), 587–597.
- Ford-Connors, E., & Paratore, J.R. (2015). Vocabulary instruction in fifth grade and beyond: Sources of word learning and productive contexts for development. *Review of Educational Research*, 85(1), 50–91.
- Francois, C. (2013). Reading is about relating: Urban youths give voice to the possibilities for school literacy. *Journal of Adolescent & Adult Literacy*, 57(2), 141–149.
- Goldman, S.R. (2012). Adolescent literacy: Learning and understanding content. *Future of Children*, 22(2), 89–116.
- Schoenbach, R., Greenleaf, C., & Murphy, L. (2012). *Reading for understanding: How Reading Apprenticeship improves disciplinary learning in secondary and college classrooms*. San Francisco, CA: Jossey-Bass.
- Slavin, R.E. (2014). Making cooperative learning powerful. *Educational Leadership*, 72(2), 22–26.
- National Council for the Social Studies resources: [www.socialstudies.org/resources](http://www.socialstudies.org/resources)
- National Science Teachers Association: <https://www.nsta.org>
- ReadWriteThink.org: [www.readwritethink.org](http://www.readwritethink.org)