Ramona Chauvin, PhD, and Kathleen Theodore, MA

Teaching Content-Area Literacy and Disciplinary Literacy

To graduate high school fully prepared for college and the workforce, students need more than basic literacy skills. They need to master the distinct approaches to literacy that are used in academic disciplines such as science, mathematics, and history—as well as Career Technical Education courses. Many students still struggle to master more basic literacy skills, however, and many teachers in discipline-specific courses lack the knowledge and expertise to help students interpret the complex texts associated with each distinct discipline. This issue of *SEDL Insights* focuses on two types of literacy that are crucial to helping students become college and career ready: content-area literacy and disciplinary literacy.

When K–12 teachers are asked to identify the challenges students face in learning, one of the major issues often discussed is that students struggle to comprehend the texts that are used in their classrooms. These difficulties are even more pronounced for students in Grades 4–12, where more than 8 million students struggle to comprehend texts in academic content areas.[1]

Teachers of different subject areas traditionally have employed content-area[2] literacy strategies, an approach to reading instruction that helps students understand information. Content-area literacy focuses

SEDL Insights on Teaching Content-Area Literacy and Disciplinary Literacy

1. Provide an approach to content instruction that cultivates the skills for 21st century literacy: critical thinking, communication, collaboration, and creativity.
2. Take charge of designing authentic, real-world experiences and assessments.
3. Commit to a conceptual framework of learning by doing.
4. Provide opportunities for students to use inquiry, key habits of practice, and academic language.
5. Implement ongoing, job-embedded professional development and collaboration by discipline with teachers as designers and facilitators.

[1] Perie, Grigg, & Donahue, 2005 as cited in Fang & Schleppegrell, 2010.
[2] Shanahan, 2015.

on the similarities of literacy in the content area with general strategies—like summarizing, questioning, and making inferences—that can help students with comprehension and can be applied universally across content areas.[3] This approach gave rise to the adage "all teachers—including content-area teachers—must be teachers of reading."

Many educators and researchers have moved beyond this paradigm, however, and are instead focusing on helping students learn how to access and comprehend discipline-based texts and engage in literacy skills, strategies, and practices specific to each discipline.[4] This approach is called disciplinary literacy. As the name suggests, disciplinary literacy focuses on discrete ways reading and writing are used in the specific discipline being studied.[5]

As is often the case when new strategies are introduced, there has been some confusion with terminology, with some practitioners using the terms "content-area literacy" and "disciplinary literacy" interchangeably. As researcher Timothy Shanahan argues, "Disciplinary literacy is NOT the new name for content area reading."[6] Rather, it is anchored in the disciplines with explicit instruction focused on discipline-specific cognitive strategies, language skills, and habits of practice.[7] In other words, "the idea is not that

[3] Fang & Coatoam, 2013.
[4] Fang & Coatoam, 2013.
[5] Fang & Coatoam, 2013.
[6] Shanahan, 2012.
[7] Fang & Coatam, 2013.

Examples of Instructional Strategies

Content-Area Literacy

Focuses on the ability to use reading and writing to learn the subject matter in a discipline; teaches skills that a "novice" might use to make sense of a disciplinary text. Emphasizes a set of study skills that can be generalized across content areas.[a]

Examples

Content-area literacy might use strategies such as monitoring comprehension, pre-reading, setting goals and a purpose for reading, activating prior knowledge, asking and generating questions, making predictions, re-reading, summarizing, and making inferences. In a science class, an example of a content-area literacy strategy would be a student using a KWL chart, which is a reading tool that asks "what I know," "what I want to know," and "what I learned." The student would use this chart to identify what he or she already knows, pose questions for reading, and list what he or she has learned during reading.

Disciplinary Literacy

Focuses on how reading and writing are used in the discipline being studied. It "emphasizes the unique tools that the experts in a discipline use to participate in the work of that discipline."[b]

Examples

Disciplinary literacy uses strategies including building background knowledge specific to the discipline, learning specialized vocabulary, deconstructing complex discipline-specific text structures, mapping graphic and mathematical representations against explanations in the text, posing discipline-specific questions, and providing evidence to support and evaluate claims.[c] In a social studies class, for example, students might write journal entries to show their understanding of another culture's way of life or write newspaper articles to analyze a historic event. In a science class, students might write lab reports or proposals for a pharmaceutical company.[d]

[a]   Shanahan & Shanahan, 2008.
[b]   Shanahan & Shanahan, 2008.
[c]   Lee & Spratley, 2010.
[d]   Bickley, 2014.

content-area teachers should become reading and writing teachers, but rather that they should emphasize the reading and writing practices that are specific to their subjects, so students are encouraged to read and write like historians, mathematicians, and other subject-area experts".[8]

Based on our experiences in the classroom and out in the field providing technical assistance to educators—and on recent research findings—we find that both content-area literacy and disciplinary literacy approaches are instrumental to student learning.[9] The insights described below are intended for teachers of all subjects as well as school and district leaders. Some insights address strategies to be implemented in the classroom, while others outline ways that education leaders can support teachers using both content-area literacy and disciplinary literacy instructional strategies. Examples are based on professional development, coaching sessions, and fieldwork conducted through the Center for High-Performing Schools and the Southeast Comprehensive Center in states such as Mississippi, New Mexico, and South Carolina.

Insight 1 — Provide an approach to content instruction that cultivates the skills for 21st century literacy: critical thinking, communication, collaboration, and creativity.

P21, the Partnership for 21st Century Learning (formerly the Partnership for 21st Century Skills) has identified critical thinking, communication, collaboration, and creativity as learning skills that students need to master to be prepared for an increasingly complex life and workforce.[10] This means that teachers cannot just teach students how to understand content; they must also teach students how to think and how to learn. Unlike mathematics, where one skill builds upon another, the process of developing literacy skills is one that requires repeated application of skills, continual learning, and practice.[11] We encourage teachers to guide students in adopting a recursive approach to

literacy: returning to a passage after a first reading, focusing on key passages and details, identifying patterns, and asking questions.

As literacy experts in the Center for High-Performing Schools, our role is to help elementary, middle, and high school teachers transform literacy instruction, changing isolated literacy practices to ones that support critical analysis, discussions, and creativity. We employ a range of strategies to help teachers learn to cultivate 21st century literacy skills:

- We activate teachers' prior knowledge by utilizing their current understandings of best practices and what they are already doing to foster disciplinary literacy. For example, we let them know that content-area literacy is still a valuable part of instruction and content-literacy strategies such as summarizing, predicting, and visualizing remain core strategies for content-area literacy.

- We help teachers become aware of their metacognitive processes by encouraging them to reflect on what they do as they read a text in specific academic disciplines. Through journaling, reflection, and collegial discussion in professional learning communities (PLCs), teachers develop patterns of thinking for literacy in each academic discipline.

8   Biancarosa & Snow, 2004, p.15.
9   Goldman, 2008.
10   P21, the Partnership for 21st Century Learning, 2015.
11   Franzak, 2006 as cited in National Council of Teachers of English, 2007.

- We provide classroom demonstrations, during which we model think-alouds of metacognitive processes for teachers. The teachers watch and record evidence of strategies for their future use.

- We provide opportunities for teachers to use their creativity to demonstrate learning in creative ways, such as writing and performing raps, reading aloud different forms of poetry, designing technical illustrations, roleplaying a job interview, or chanting while jumping rope. Later, teachers use this experience as a model for using creative approaches when teaching content knowledge to students.

When we provide professional development to middle and high school teachers, we encourage more of them to start integrating literacy strategies within the content they teach, always remembering the following three principles: (1) The content objective guides the lesson; (2) the text selection reflects the content; and (3) the literacy strategy is selected as a tool to help students access the discipline-specific text more effectively and

12 National Institute of Child Health and Human Development, 2000.
13 National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010.
14 National Institute of Child Health and Human Development, 2000; National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010.
15 Shanahan & Shanahan, 2008.

efficiently. Implementing these principles along with articulating an explicit lesson closure—where the teacher reviews and clarifies key points and gives students an opportunity to ask questions—can lead to deeper understanding and retention of content. One principal we worked with strongly supported this approach by refining the school's lesson plan format to include a discipline-specific literacy strategy and explicit closure statements.

When we facilitate professional learning experiences with elementary teachers, we frame literacy as a continuum and help them see their role in preparing students for disciplinary literacy. First we confirm that the big ideas[12] and the foundational skills,[13] such as phonemic awareness, phonics, fluency, vocabulary, and comprehension remain a core necessity.[14] As a group, we then analyze college- and career-readiness standards and begin viewing literacy as a continuum: the continuum begins with basic literacy (decoding and knowledge of high-frequency words), progresses to intermediate literacy (generic comprehension strategies, common word meanings, and basic fluency), and finally extends to disciplinary literacy (literacy skills specialized to each discipline).[15]

We also illustrate the process of making thinking visible through close reading, a practice that involves repeated reading of a text, with each reading episode allowing the reader to delve deeper into more complex aspects of the text. Using a variety of texts and genres, we model close reading in PLCs and in classrooms with students. Each time we have debriefed after classroom demonstrations, teachers have been impressed with students' thinking and discussions as they engaged with each type of text, both literary and informational. By modeling the close-reading process, we help teachers support students' thinking as they process text and demonstrate how literacy works for a specific text. Through close reading, students are engaged in opportunities grounded in reading, writing, thinking, listening, speaking, reasoning, and inquiring.

Working systemically to help districts and schools implement and sustain these strategies, we

provide opportunities for practice in PLCs and team teaching. We discuss and develop a management plan for the routines and procedures for close reading. As a result of using the management plan, teachers are able to clearly articulate expectations for students. Selecting texts purposefully to support literacy development is also a critical component of teachers' professional learning experiences. As we explore and discuss multiple genres of text, teachers become designers of learning experiences for their students. Additionally, teachers continue to transform literacy instruction by focusing on their practices through collegial discussions, observations of their students, and analysis of students' work.

Insight 2   Take charge of designing authentic, real-world experiences and assessments.

A disciplinary literacy approach to instruction requires teachers to think of the world as part of the classroom and use community resources and a variety of types of texts to nurture and respond to the students' interests, strengths, and needs. Approaches to disciplinary literacy have five key distinguishing points:

- Students have an authentic purpose and audience. They respond to real needs and questions and share work with an audience of peers, mentors, or community members.

- Learning has flexible processes and negotiable structures. Students may revisit information and ideas as their learning increases, a process that encourages students to ask and explore questions.

- The teacher serves as a facilitator, providing guidance and support while giving students responsibility for problem solving. Mistakes are viewed as opportunities for learning.

- Students are able to interact with experts in the field under investigation, and experts provide mentorship to students as they build their own disciplinary understanding.

- Students have ownership of their learning, and instruction facilitates student choice. Students take pride in their work and determine their own successes.[16]

Authentic learning tasks also support students' content literacy because they show students that the content and literacy are relevant to their lives. They also can increase students' motivation and increase their academic vocabularies. Providing authentic learning experiences is often more challenging than providing traditional content instruction and requires substantial thought and planning. Despite these challenges, researchers find that authentic tasks are worthwhile because they will likely lead to higher student engagement and more meaningful learning.[17]

To help teachers provide more authentic learning experiences for their students, we work with districts and schools to implement PLCs where teachers are actively engaged in constructive dialogue and reflection to improve instructional practices. This process enables teachers to collaborate and plan learning experiences for students that incorporate real-world learning. After implementing these lessons, teachers examine authentic samples of student work and look for evidence of student learning. We also coach

[16] Lattimer, 2014, p. 17.
[17] Barron & Darling-Hammond, 2008; Parsons & Ward, 2011.

teachers in unpacking college- and career-readiness standards and designing instructional units that are grounded in integrated literacy, a process that helps teachers connect instruction to the real world.

Insight 3
Commit to a conceptual framework of learning by doing.

Students learn when they are actively engaged in their own learning.[18] One way that we have helped teachers facilitate student learning and engagement is through modeling accountable talk.[19] As educators, we have witnessed that students need to learn how to talk about a discipline and interact with their classmates. Accountable talk raises the level of discussion in the classroom so that students ask for clarification, cite evidence, and respond to and further develop something a classmate has said.

When we provide professional learning experiences, we initiate accountable talk by modeling close reading of texts in classrooms. We invite students to actively participate in constructing and monitoring meaning as each student shares ideas. Our role is to facilitate students' learning by holding them accountable as they build knowledge and provide evidence of their claims from the text. We also model

[18] Dewey, 1938.
[19] Institute for Learning, 2013.

the process, providing feedback and scaffolding when students need support.

It takes time for students to develop the habit of using accountable talk, and we first have to establish routines, expectations, and procedures. We also have to explicitly model for students how to be respectful of others' ideas, actively participate in discussions, listen closely, and elaborate on ideas. We brainstorm some examples of appropriate "talk" (responses) for elaborating and accountable talk such as "I disagree with that because…," or "I want to add to what Jane said about…," or "This reminds me of…." We post the responses on anchor charts around the classroom as reminders for discussions.

Accountable talk gives students opportunities to learn by doing by being immersed in the language of the disciplines. It also provides a unique opportunity for us—and the teachers—to gain further insight into students' progress, level of thinking, knowledge, and vocabulary growth. It is another opportunity for formative assessment of students' progress.

There are numerous other ways that students can learn by doing in the classroom. In our work providing literacy professional development at the middle and high school levels, we conduct walkthroughs with principals and curriculum coaches. During one of these walkthroughs, we observed students engaged in individual, paired, small-group, and whole-class learning tasks. Learning tasks included alternating "boss and secretary" for exploring and computing geometry problems; responding to a viewing guide while watching a movie related to the Cold War; singing in Spanish as an alternative to repetition and memorization; conjugating verbs; taking tests or quizzes; writing sentences that explain how text is related to a specific standard or objective on market economy, national economy, and U.S. policies; sharing or informally presenting current events summaries; and reading silently. Teachers facilitated learning by monitoring student work, giving feedback, scaffolding support, clarifying roles in paired or small-group work, reviewing previous days' lessons, and clarifying lesson content.

When we work directly with teachers, we also provide opportunities for them to learn by doing—whether in PLCs, in summer institutes, in coaching settings, or in ongoing school-based professional development sessions. As we plan these sessions, we keep components of adult learning theories at the forefront of our work. Adult learners generally prefer learning by doing; therefore, instead of simply transmitting information, session leaders facilitate a self-directed learning experience.[20] Adult learners also have a wide range of life experiences and expect that the learning sessions and tasks will be relevant to their teaching or some other aspect of their lives.[21]

Insight 4
Provide opportunities for students to use inquiry, habits of practice, and academic language.

The use of inquiry, key habits of practice, and academic language are also foundational elements of literacy, similar to phonemic awareness, phonics, fluency, vocabulary, and comprehension, which are listed in Insight 1. These foundational elements of literacy are very important because they teach students how to learn, think, and manage their learning with competence and confidence. A growing body of research shows that students who are in more inquiry learning–based classrooms learn more deeply and perform better on complex tasks, especially when they are required to use subject knowledge to solve real-world problems.[22] Teachers can provide opportunities for inquiry by mentoring students in reading complex disciplinary text through explicit teaching of academic language and modeling self-questioning, especially questions specific to each academic discipline. In this way, teachers are helping students develop the habits of practice, which are ways of reading, writing, viewing, speaking, thinking, listening, reasoning, and critiquing.

Students sometimes find academic language challenging because it tends to be more formal language that compresses complex ideas into fewer words. Students need practice with questioning through think-alouds, classroom conversations, and discussions. They also need opportunities to complete tasks grounded in the specific cognitive strategies of each academic language and each literacy practice. All of these activities facilitate students' development of the habits of practice that support thinking and learning in the discipline.

Through some of the technical assistance and professional learning that we provide, we have worked with teachers of a range of subjects to help them provide opportunities for students to use academic language. For example, in collaboration with Mississippi's Career and Technical Education

---

20 Flaherty, 2005; Knowles, 1990.
21 L'Allier, Elish-Piper, & Bean, 2010.
22 Barron & Darling-Hammond, 2008.

(CTE) program, our Southeast Comprehensive Center helped develop a coaching initiative to strengthen literacy support in CTE classes that prepare adolescent students for careers ranging from auto repair and nursing to graphic design and polymer science. Many students are not prepared for the highly demanding technical content in CTE texts because they have limited skills in technical reading and comprehension and limited vocabulary across content areas. In addition, CTE instructors often have no formal training in building students' literacy and comprehension skills. One automotive service technology instructor described his struggles this way: "I need a way to help my students read and understand complex automotive technical manuals."

Through summer institutes, webinars, videos, and on-site visits across the state of Mississippi, SEDL experts worked with teams from CTE centers, helping them learn how to integrate research-based literacy strategies aligned with college- and career-ready standards into their content areas. These literacy strategies equip students with the skills to access and engage in a variety of complex texts and tasks they may encounter later on the job. To promote sustainability of these

23 Shanahan & Shanahan, 2012.
24 Kosanovich et al., 2010; Torgesen, 2006; Torgesen et al., 2007.

practices, CTE teams—composed of a CTE site director, a CTE course instructor, and a student services coordinator—share the strategies with other instructors at their centers. Later, selected participants are recruited as mentor trainers in the program. Of the state's 89 CTE centers, more than 20 centers have participated in the project so far. Early analyses show improved score averages for content-area pre- and post-assessments. Teachers also report that students are far more engaged, talking about the strategies in CTE classes and even with teachers of academic subjects. One such eager student queried, "Are you gonna teach all of this stuff to my other teachers?"

Insight 5

Implement ongoing, job-embedded professional development and collaboration by discipline with teachers as designers and facilitators.

To prepare educators for teaching 21st century skills, teacher preparation and professional development need to change—both for pre- and in-service teachers. Currently, most reading or literacy courses emphasize study skills that can be generalized across the content areas for use in subject-matter classes.[23] Some literacy experts are now advocating for teaching the discourse practices of each discipline and providing disciplinary literacy professional development within the respective subject area. In addition, researchers propose providing more robust support for teachers through the provision of ongoing, high quality, job-embedded, professional learning.[24] Education leaders can achieve this by fostering collaboration among subject-area teachers, literacy teachers, and coaches. Together, they can identify "essential target skills that cover both disciplinary content and disciplinary habits of practice, select relevant and significant texts, design authentic tasks and experiences, and create sensitive scoring criteria … [and] students need to be given tasks and experiences that provide opportunities for them to read, write, think, reason, and inquire with

substantive content presented through texts of multiple genres, modalities, registers, and sources." [25]

Through the Center for High-Performing Schools, we worked with a group of middle and high school content-area teachers and literacy coaches, integrating content-area literacy skills and disciplinary literacy skills.[26] We used pre-reading, during reading, postreading, and college- and career-ready standards as frameworks for conversations and professional development session agendas. We also emphasized explicit closure statements articulated by the participating teachers so that students would know **the what** (What did we learn today? What was the topic of the lesson? What was the content objective? What was the text or task? What literacy strategy was selected to help all students access information from the text or task?); **the why** (Why is this information and this learning strategy important for me to know?); **the how** (How will this lesson and its components help me as a student become a more proficient and effective learner?); and **the when** (When will I use this information and strategy in real-world situations?). We also grouped participants by discipline and designed discipline-specific learning tasks. For example, we asked groups to create a poster entitled "How to Read Like a _____" (with a member of a specific discipline filled in the blank). The purpose of this task was not only to have teachers collaborating and dialoging about discipline-specific reading strategies but also to have them create posters to be placed in content-area classrooms across the districts as tools for their students.

The secondary teachers left each professional development session with an action plan for implementing or sharing at least one of the learning tasks with other faculty members or within a lesson with their students. Follow-up sessions began with participants sharing or debriefing about learning task celebrations, challenges, and next steps. In between sessions, the regional coach conducted walkthroughs and observations, and both she and Center for High-Performing Schools staff provided additional support via email.

Conclusion

Our increasingly complex workforce and society demand that students have disciplinary literacy skills. To help students meet these requirements, K–12 teachers are encouraged to teach both content-area and disciplinary literacy. Using both approaches will require that we change instruction for students and professional learning for teachers, as we help students develop both the academic and disciplinary literacy skills they need to succeed in college and the workforce.

How SEDL Can Help

The insights described above are based on research and our experiences with helping schools and districts design and implement instruction relevant to both content-area literacy and disciplinary literacy. SEDL offers a suite of professional development and evaluation services as well as free resources for educators who are interested in improving literacy instruction. We encourage you to explore the following resources:

- The Center for High-Performing Schools at SEDL
- Free literacy resources on the SEDL website

---

[25] Fang & Coatoam, 2013, p. 630.
[26] Lee & Spratley, 2010.

References

Barron, B., & Darling-Hammond, L. (2008). *Teaching for meaningful learning: A review of research on inquiry-based and cooperative learning* [Book excerpt]. Retrieved from http://www.edutopia.org/pdfs/edutopia-teaching-for-meaningful-learning.pdf

Biancarosa, G., & Snow, C. E. (2004). *Reading next–A vision for action and research in middle and high school literacy: A report to Carnegie Corporation of New York.* Washington, DC: Alliance for Excellent Education.

Bickley, H. (2014, January 9). *What exactly is disciplinary literacy, anyway?* [Blog post]. Camden, NJ: Catapult Learning. Retrieved from http://www.catapultlearning.com/exactly-disciplinary-literacy-anyway/

Dewey, J. (1938). *Experience and education.* New York: Touchstone.

Fang, Z., & Coatoam, S. (2013, May). Disciplinary literacy: What you want to know about it. *Journal of Adolescent & Adult Literacy, 56*(8), 627–632.

Fang, Z., & Schleppegrell, M. (2010, April). Disciplinary literacies across content areas: Supporting secondary reading through functional language analysis. *Journal of Adolescent & Adult Literacy, 53*(7), 587–597.

Flaherty, J. (2005). *Coaching, evoking excellence in others* (2nd ed.). Burlington, MA: Elsevier Butterwoth-Heinemann.

Goldman, S., (2012, Fall). Adolescent literacy: Learning and understanding content. *Future of Children, 22*(2), 89–116. Retrieved from http://futureofchildren.org/futureofchildren/publications/docs/22_02_06.pdf

Institute for Learning, University of Pittsburgh. (2013). *Accountable talk.* Retrieved from http://ifl.pitt.edu/index.php/educator_resources/accountable_talk

Knowles, M. (1980). *The modern practice of adult education: From pedagogy to andragogy.* Englewood Cliffs, NJ: Cambridge Adult Education.

Kosanovich, M. L., Reed, D. K., & Miller, D. H. (2010). *Bringing literacy strategies into content instruction: Professional learning for secondary-level teachers.* Portsmouth, NH: RMC Research Corporation, Center on Instruction.

Lattimer, H., (2014). *Real world literacies: Discipline-based reading, writing, listening, and speaking to prepare high school students for success in college, career, and community.* Urbana, IL: National Council of Teachers of English.

L'Allier, S., Elish-Piper, L., & Bean, R. (2010). What matters for elementary literacy coaching? Guiding principles for instructional improvement and student achievement. *The Reading Teacher, 63*(7), 544–554.

Lee, C. D., & Spratley, A. (2010). *Reading in the disciplines: The challenges of adolescent literacy.* New York, NY: Carnegie Corporation of New York.

National Council of Teachers of English. (2007). *Adolescent literacy: A policy research brief.* Urbana, IL: Author.

National Governors Association Center for Best Practices, & Council of Chief State School Officers. (2010). *Common Core State Standards for English language arts and literacy in history/social studies, science, and technical subjects.* Washington, DC: Authors.

National Institute of Child Health and Human Development, National Institutes of Health. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4769). Washington, DC: Authors.

Parsons, S., & Ward, A. (2011). The case for authentic tasks in content literacy. *The Reading Teacher, 64*(6), 462–465.

P21, the Partnership for 21st Century Learning. (2015). *Learning and innovation skills.* Retrieved from http://www.p21.org/about-us/p21-framework/60

Santa, C., & Havens, L. (1995). *Creating independence through student-owned strategies: Project CRISS.* Dubuque, IA: Kendall Hunt.

Shanahan, C. (2015). *Disciplinary literacy strategies in content area classes.* Available from http://www.reading.org/general/Publications/e-ssentials/e8069

Shanahan, T. (2012). *Disciplinary literacy is NOT the new name for content area reading.* [Blog post: Shanahan on Literacy]. Retrieved from http://www.shanahanonliteracy.com/2012/01/disciplinary-literacy-is-not-new-name.html

Shanahan, T., & Shanahan, C. (2008). Teaching disciplinary literacy to adolescents: Rethinking content-area literacy. *Harvard Educational Review, 78*(1), 40–59.

Torgesen, J. K. (2006, August). *Improving adolescent literacy: Suggestions from research.* Paper presented at the meeting of the Florida Adolescent Literacy Work Group, Orlando, FL. Available from http://www.fcrr.org/science/

SEDL Insights is based on the experience, expertise, and research of SEDL staff. It is designed to give education practitioners practical suggestions for implementing school improvement strategies.

About SEDL

http://www.sedl.org