Recently, more than 40 states have adopted educational standards or goals that require the teaching of literacy in the disciplines in grades 6–12 (English, science, history, mathematics). Many states have participated together in the creation of the College and Career Readiness and Common Core State Standards (CCSS) for English Language Arts and Literacy (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010). These CCSS have entire sections devoted to disciplinary literacy. Additionally, states that are not part of the CCSS (e.g., Texas, Indiana) have adopted their own versions of disciplinary literacy standards. This means that for the first time ever, most students in the United States are required to be taught to engage in specialized forms of reading and writing that are needed to participate successfully in the various disciplines.

The accomplishment of disciplinary literacy standards cannot be a professional endeavor restricted to English language arts teachers or reading teachers, as the nature of such standards transcend the limits of traditional subject matter boundaries. In fact, as stated explicitly in the Introduction to the ELA and Literacy standards, “instruction in reading, writing, speaking, listening, and language should be a shared responsibility” in a school. The role of content teachers in developing disciplinary literacy skill is necessary and vital if students in grades 6–12 are truly to become college and career ready.

What Is Disciplinary Literacy?

To be truly college- or career-ready, students must be able to perform tasks such as “analyze the relationship between a primary and secondary source on the same topic” (CCSS.ELA-LITERACY.RH.6-8.9) or “translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words” (CCSS.ELA-LITERACY.RST.9-10.7). These kinds of skills are specialized, and each content area brings its own set of literacy demands.

Research has been revealing that reading and writing are used in very different ways in the different disciplines and that applying literacy in sophisticated ways in the disciplines...
involves unique or highly specialized skills not likely to be developed in the English language arts (Moje, 2008; Shanahan & Shanahan, 2008; Shanahan & Shanahan, 2012). One issue has to do with the nature of the texts themselves. Science texts differ from history texts and history texts are very different from literary texts. Even math and science texts differ from each other in important ways. The idea isn’t that one kind of text is more valued than another, but that each places unique or specialized demands on readers.

Also, the ways in which knowledge is created and evaluated differs across subjects. Science depends on rigorous experiments and careful observations, which requires especially thorough and explicit explanations; thus, in science, data are typically described in multiple ways (including through prose, mathematical calculations, and various graphics). Readers, consequently, need to examine the connections among these various forms of evidence. Math texts are more linear than science texts, and they require that readers shift back and forth between English grammar and the rules governing algebraic sentences and formulae. In history, the evidence and reasoning take a very different form, so readers need to make an effort to determine and evaluate different perspectives on events. Because of the diverse purposes and nature of the various subjects, argument and evidence vary, too, so readers need the specialized skills required to make sense of disciplinary texts.

As stated in the Introduction to the ELA standards, “The disciplinary literacy standards allow teachers of ELA, history/social studies, science, and technical subjects to use their content area expertise to help students meet the particular challenges of reading, writing, speaking, listening, and language in their respective fields” (NGA & CCSSO, 2010). Students will not develop the ability to make sense of the specialized reading demands of mathematics, history, science, or technical subjects in an English class. That’s why it is imperative that disciplinary literacy instruction be provided by teachers in those fields of study. English teachers or general reading teachers will rarely have sufficient knowledge or experience reading and studying mathematics, science, or social studies.
Disciplinary Literacy Standards and Content Area Learning

Students need explicit guidance in how literacy is used appropriately in the different fields, but this needs to be accomplished without any reduction in emphasis on the knowledge that students need to gain. Thus, students might learn how to compare and synthesize effectively the scientific information presented in prose with that presented in a table or chart in a science text, but they also must learn the various concepts and principles about gravity or nutrition that are presented in those texts. Disciplinary literacy standards and disciplinary content have to go hand in hand.

It should be noted that the CCSS disciplinary literacy standards are different from what has long been referred to as “content area reading” or “content area literacy” (Shanahan & Shanahan, 2012). Content area reading efforts have focused on getting subject matter teachers to emphasize common reading strategies or skills. But these standards do not propose that subject matter teachers inculcate basic reading strategies or study skills. The disciplinary literacy standards are about teaching students to read like historians, scientists, mathematicians, and literary critics. There is definitely a place for both disciplinary and content area literacy approaches in schools, but the CCSS are about the former and not the latter.

Neither are these standards in any conflict with the various content standards that exist in each of the subject areas. Past state educational standards neglected the reading and writing skills inherent in how each of the disciplines creates, communicates, and evaluates knowledge. Newer content standards and frameworks, such as the Next Generation Science Standards (NGSS Lead States, 2013), the College, Career, and Civic Life (C3) Framework for Social Studies State Standards (National Council for Social Studies, 2013), and the Common Career Technical Core (National Association of State Directors of Career Technical Education Consortium, 2012) were developed with the idea that students would be receiving instruction in the literacy demands of these subject areas as a result of CCSS.
Collaborating for Student Achievement in Disciplinary Literacy Skills

Teachers of all disciplines “must know how to create a classroom culture of engaged academic literacy” (Greenleaf, Schoenbach, & Murphy, 2014, p. 2) for student success. Content area teachers are masters of the literacy demands of their disciplines and have a responsibility to share with students how to read, write, speak, listen, research, and think like experts in subject areas. In this model, students act as apprentices to a content area expert as the teacher helps students through their struggle with complex materials in ways that are relevant to the discipline (Greenleaf et al., 2014).

At the same time, when ELA teachers collaborate with content teachers, students better understand how to read and write informational text well. There are many skills that ELA teachers can emphasize that will help students communicate in content classes. When educators work together to plan and implement disciplinary literacy practices over time, both ELA standards and content standards are more likely to be met and students will develop a deeper understanding of the content.

Content teachers and ELA teachers can plan to address literacy standards in their own disciplines within integrated instructional units. For example, ELA teachers can teach students how to read and write arguments. Content teachers can then ask students to analyze arguments for content area issues, guide students to write their own arguments about the issue, or invite them to create and present multimedia presentations or speeches that defend an argument. Teachers can collaborate with interdisciplinary teams to plan, implement, assess, and evaluate assessments.

Teachers in subject area departments can also work together to emphasize a particular literacy skill schoolwide or coordinate teaching disciplinary literacy standards across the school calendar as content topics are introduced. When educators work together to implement disciplinary literacy practices, students greatly expand their understanding of content area topics and issues.
Long-Term Professional Learning to Increase Disciplinary Literacy

For all educators to understand how to plan for and implement disciplinary literacy practices, they must engage in professional learning experiences. Effective professional learning opportunities are designed so that educators “develop the knowledge, skills, practices, and dispositions they need to help students perform at higher levels” (Learning Forward, 2011). Examples of professional learning opportunities include working together in professional learning communities, online learning, study groups, peer collaboration, instructional demonstrations, peer coaching, lesson study, analysis of student work, workshops, and professional conferences. Skilled literacy coaches (International Reading Association [IRA], 2004) and teacher leaders (IRA, 2010) can facilitate many of these professional learning opportunities for disciplinary literacy teaching and learning while acknowledging that the real disciplinary literacy expertise falls with the content teacher.

Programs of professional learning aimed at guiding teachers to teach disciplinary literacy effectively are based on both research and teacher experience. Research can be drawn from relevant fields of study, including literacy education, but also from the various disciplines. Further, effective schools involve teachers in identifying what the emphasis of such professional learning should be. Professional learning needs can be determined by assessing teacher knowledge through focus groups (in cross-curricular teams, grade-level groups, or content area groups) and administering individual surveys to teachers to make certain their voices are heard and their perspectives and insights are included. Effective professional learning opportunities are sustained, job embedded, and classroom focused.

The results of formative literacy assessment can also be used as a guide to professional learning for literacy needs in the disciplines. According to the Council of Chief State School Officers (McManus, 2006), formative assessment is “a process used by teachers and students during instruction that provides feedback to adjust teaching and learning to improve students’ achievements of intended instructional outcomes” (p. 3). IRA (2013) describes formative assessment as “a thoughtful process that provides teachers and students with descriptive feedback concerning students’ literacy.” All educators in the school can be
involved in the process of analyzing literacy-related data from diagnostic and common assessments, writing, and communication collections that represent the growth of individual students, and any other source already available to inform decisions.

Lesson study is particularly appropriate for professional learning in instructional strategies (Blank, de las Alas, & Smith, 2008). Content teachers can work with skilled literacy leaders to learn about strategies based on disciplinary literacy standards. Teachers can try out disciplinary literacy strategies in their own classrooms to help students learn content topics, and then use formative assessment to gauge their students’ learning. Content teachers and literacy leaders can analyze student work and determine students’ disciplinary literacy learning together, and then create a plan for next steps.

Leadership can facilitate collaborative teacher learning that will foster incremental improvement in the art and practice of disciplinary literacy teaching by planning for teacher collaboration, possibly by rethinking the master schedule or reallocating staff time. When leaders participate in teacher-learning opportunities, they know what specifically to look for during observations. Requiring short-term and long-term evidence that teachers are applying what they have learned in their professional learning experiences is a way to ensure that disciplinary literacy skills are included in the content classroom. Leaders can also use initial, interim, and long-term reflection feedback questionnaires, interviews, and observations to capture the impact evidence of implementing disciplinary literacy teaching in every classroom.

**Teacher Education Programs to Prepare for Disciplinary Literacy Achievement**

The importance of preparing prospective teachers for a standards-based educational context cannot be overstated. Indeed, at the very beginning of their teacher preparation programs, future teachers are often asked to participate in a series of classroom observations. No doubt, these novices would be well served by having some familiarity with the disciplinary literacy standards that influence the curriculum and instruction in the classrooms they visit.
As future teachers move through the preparation process, emphasis should be placed on providing them with the background knowledge and hands-on experience that will help them to function effectively as both “student teachers” and future practitioners. Key elements of that preparation include the following:

- Background knowledge and understanding of why the state standards were developed and the process by which they were developed
- In-depth knowledge of the specific literacy standards that address the grade span (e.g., elementary, middle school, high school) for which they are preparing to teach and a strong familiarity with the standards for the grade levels preceding and following that grade span
- Opportunities to prepare and teach lessons that focus on specific disciplinary literacy standards, with guidance and supervision of cooperating teachers and college supervisors
- Opportunities to implement assessment strategies for monitoring student disciplinary literacy progress and to engage in discussion and reflection with their cooperating teachers and college supervisors about what the assessment results might indicate for follow-up instruction

When schools hire new teachers, they would be wise to look toward practitioners who have had experience implementing disciplinary literacy standards in their content areas as part of a teacher preparation program.

**Recommendations**

To ensure that students in grades 6–12 develop disciplinary literacy skills, educators are encouraged to do the following:

1. Engage in teacher collaboration focused on curriculum, assessment, and strategies that will help students meet related disciplinary literacy standards in every content area.
2. Implement long-term professional learning plans aimed at increasing understanding of how to develop and expand disciplinary literacy skills schoolwide.
3. Prepare more effective teacher candidates by ensuring they have substantial knowledge of standards and experiences
with helping students meet disciplinary literacy standards in all areas of teacher preparation programs.

REFERENCES


**ADDITIONAL RESOURCES**


International Literacy Association  
Common Core State Standards Committee, 2014–2015

_Co chairs_  
Brenda J. Overturf, Literacy Perspectives, Louisville, Kentucky, USA  
Timothy Shanahan, University of Illinois at Chicago, USA

_ILA Board Member Liaison_  
Diane Barone, University of Nevada, Reno, USA

_Members_  
Sarah Fleming Mahurt, U.S. Virgin Islands  
Maureen McLaughlin, East Stroudsburg University of Pennsylvania, USA  
Cindy Parker, Kentucky Department of Education, USA  
Kris Shaw, Kansas Department of Education, USA  
Dorothy Strickland, Rutgers University, New Brunswick, New Jersey, USA  
Jill Lewis-Spector, New Jersey City University, USA,  
_Ex Officio_

ILA Board of Directors at Time of Adoption

Jill D. Lewis-Spector, President  
Diane Barone, Vice President  
Donald Bear  
Julie L. Coiro  
Lori DiGisi  
Bernadette Dwyer  
Laurie A. Elish-Piper  
Douglas Fisher  
Rona F. Flippo  
Shelley Stagg Peterson  
Julianne Scullen