



What is Disciplinary Literacy?

Literacy, the ability to read, write, listen, speak, think critically and perform in different ways and for different purposes, begins to develop early and becomes increasingly important as students pursue specialized fields of study in high school and beyond. The Common Core State Standards (CCSS) for Literacy in Science, Social Studies, History, and the Technical Subjects are connected to College and Career Readiness Standards that guide educators as they strive to help students meet the literacy challenges within each particular field of study. This national effort is referred to as disciplinary literacy.

In Wisconsin, disciplinary literacy is defined as the confluence of content knowledge, experiences, and skills merged with the ability to read, write, listen, speak, think critically and perform in a way that is meaningful within the context of a given field.

These abilities are important in ALL courses and subjects. While the *Common Core State Standards (CCSS) for Literacy in Science, Social Studies, History, and the Technical Subjects* provide standards for cross-discipline reading and writing in grades 6-12, Wisconsin recognizes the need to broaden this effort and include **all disciplines and every educator in every grade level K-12**. This literacy focus must begin as soon as children have access to formal education and continue intentionally as college and career readiness goals advance for all children in Wisconsin.

To address this expanded definition and approach to disciplinary literacy, excerpts from the K-5 Common Core State Standards for English Language Arts are included in this document. Elementary classroom teachers build the foundational literacy skills necessary for students to access all learning. Additionally, they develop content specific to deep literary study, oratory tradition and linguistic analysis; skills specific to English language arts. Literacy reaches beyond this knowledge in one content area to include reading, writing, listening, speaking and thinking critically in each discipline beginning at an early age. The applicable K-5 standards help educators in Wisconsin build a ladder of skills and dispositions that lead to accelerated achievement across disciplines and will be included in every content-specific standards document into the future.

Why is disciplinary literacy important?

The modern global society, of which our students are a part, requires postsecondary learning. An analysis of workforce trends by Georgetown University economist Anthony Carnevale and his colleagues found that nearly 60 percent of all job openings in 2007 required some postsecondary education; postsecondary success depends on students' ability to comprehend and produce the kinds of complex texts found in all disciplines. Therefore, the economic future of our state, as well as our students and their success as productive citizens and critical thinkers link to disciplinary literacy.

Textbooks, articles, manuals and historical primary source documents create specialized challenges for learners. These texts often include abstracts, figures, tables, diagrams and specialized vocabulary. The ideas are complex and build across a number of paragraphs requiring focus and strategic processing. To comprehend and produce this type of text, students must be immersed in the language and thinking processes of that discipline and they must be supported by an expert guide, their teacher (Carnegie Report, 2010).

A focus at the elementary level on foundational reading, when expanded to include engaging experiences connected to informational texts, vocabulary, and writing for content-specific purposes builds background knowledge and skills in each discipline. This increases opportunities for success as students approach more rigorous content in those disciplines (Alliance for Excellent Education, 2011).

Reading, writing, speaking, listening and critical thinking must be integrated into each discipline across all grades so that all students gradually build knowledge and skills toward college and career readiness. Collaboration among Institutes of Higher Education, CESA Statewide Network, districts, schools, teachers and family and community will guide the implementation of the Common Core State Standards in Wisconsin.



The message is that literacy is integral to attainment of content knowledge and content is essential background knowledge for literacy development.

This interdependent relationship exists in all disciplines.

The Common Core State Standards require educators to support literacy in each classroom across the state. Since the impact of this effort is significant, it is essential that resources and supports be accessible to all educators. To build consistent understanding, DPI convened a statewide Disciplinary Literacy Leadership Team in 2011 comprised of educators from many content areas and educational backgrounds. This team was charged with examining the CCSS for Disciplinary Literacy, identifying the needs in the field for support, and gathering materials and resources to address those needs. Resources are available at www.dpi.wi.gov/standards





Wisconsin Foundations for Disciplinary Literacy

To guide understanding and professional learning, a set of foundations, developed in concert with Wisconsin's Guiding Principles for Teaching and Learning, directs Wisconsin's approach to disciplinary literacy.

Academic learning begins in early childhood and develops across all disciplines.

Each discipline has its own specific vocabulary, text types, and ways of communicating. Children begin learning these context- and content-specific differences early in life and continue through high school and beyond. While gardening, small children observe and learn the form and function of a root, stem, leaf and soil; or measure, mix and blend while baking a cake. School offers all students opportunities to develop the ability to, for example, think like a scientist, write like a historian, critique like an artist, problem-solve like an auto mechanic, or analyze technological advances like a health care technician. As literacy skills develop, educators gradually shift the responsibility for reading, writing, listening, speaking and critical thinking to students through guided supports in both individual and collaborative learning experiences.

Content knowledge is strengthened when educators integrate discipline-specific literacy into teaching and learning.

Educators help students recognize and understand the nuances of a discipline by using strategies that "make their thinking visible." They promote classroom reading, writing, listening, speaking and critical thinking using authentic materials that support the development of content-specific knowledge. They guide students through these complex texts by using strategies that develop conceptual understanding of language and set expectations for relevant application of skills. These literacy practices deepen students' content knowledge, strategies and skills so that their learning transfers to real world situations.

The literacy skills of reading, writing, listening, speaking and critical thinking improve when content-rich learning experiences motivate and engage students.

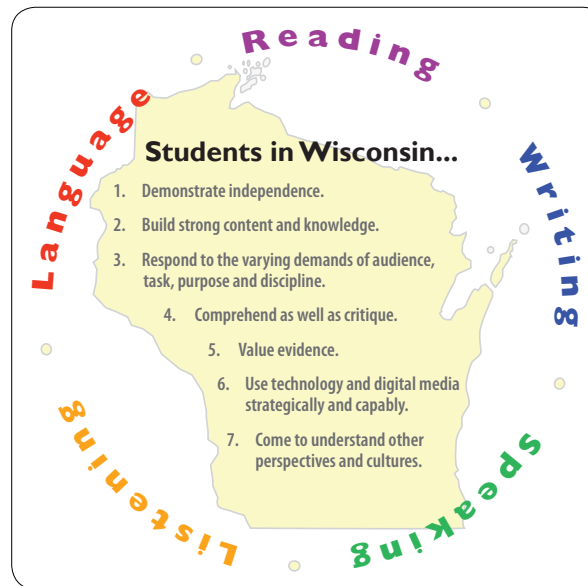
Educators who foster disciplinary literacy develop experiences that integrate rigorous content with relevant collaborative and creative literacy processes to motivate and engage students. Setting high expectations, they structure routines and supports that empower students to take charge of their own learning. When students work in teams to research science

and mathematics concepts in the development of an invention or a graphic arts design; when they collaboratively build a blog that explains their recent marketing venture, they use specific literacy skills and strategies to solidify learning. Students need these opportunities over time to develop the precise and complex reading, writing, listening, speaking and critical thinking skills demanded in today's careers.

Students demonstrate their content knowledge through reading, writing, listening, and speaking as part of a content-literate community.

Students who are literate in a particular discipline are able to successfully read, write, and speak about that discipline and can listen to and think critically as others communicate in that community. Performance tasks that allow students to present the complexity of a content area in a way that is meaningful to the field become authentic approaches to

assessing mastery within a discipline. Such tasks empower students to discover the real world connections across disciplines and to actively participate in communities of discipline-literate peers. As Wisconsin moves to the SMARTER Balanced Assessment System these performance tasks will be integral to assessment of student learning.





What research and resources are available to support educators' use of the Common Core State Standards for Literacy in All Subjects?

The Common Core State Standards for Literacy in All Subjects reflect the importance of literacy in both the oral and written language and in both productive (speaking and writing) and receptive (listening and reading) discourse. Clearly, critical and precise thinking are required to develop all of these specific strategies and skills. The standards also address the learning and functioning of language in a technological, media-driven world because the language that we use is selective depending upon the context of the conversation.

The following section will offer relevant research and resources to support professional learning in reading, writing, speaking, listening and language across disciplines. Collegial conversation and learning, both cross-discipline and within-discipline will help make the Common Core State Standards more applicable to schools and districts, and will address the needs of unique programs within those contexts. A collection of online resources will continue to develop as support materials emerge.

Reading Connections

While early reading focuses on learning that letters make sounds, and that words carry meaning, reading quickly develops to a point where the message taken from text depends on what the reader brings to it. The Carnegie Report, *Reading in the Disciplines* (2010) describes this phenomenon:

“The ability to comprehend written texts is not a static or fixed ability, but rather one that involves a dynamic relationship between the demands of texts and prior knowledge and goals of the reader.”

Therefore, a musician reading a journal article that describes concepts in music theory will take more information away from the text than a music novice because of their knowledge and experience in music. As well, an individual who spends a significant amount of time reading automotive manuals will more easily navigate a cell phone manual because of familiarity with that type of text.

A chart excerpted from the Carnegie Report (2010) details a few of the generic and more discipline-specific strategies that support students as they attempt to comprehend complex text. While the generic strategies pertain across content areas, discipline-specific ones must be tailored to match the demands of the content area.

Both generic and discipline focused strategies and knowledge must be applied to the comprehension and evaluation of:

- Textbooks
- Journal and magazine articles
- Historically situated primary documents
- Full Length Books
- Newspaper Articles
- Book Chapters
- Multimedia and Digital Texts



Generic Reading Strategies	Discipline-Specific Reading Strategies
Monitor comprehension	Build prior knowledge
Pre-read	Build specialized vocabulary
Set goals	Learn to deconstruct complex sentences
Think about what one already knows	Use knowledge of text structures and genres to predict main and subordinate ideas
Ask questions	Map graphic (and mathematical) representations against explanations in the text
Make predictions	Pose discipline relevant questions
Test predictions against the text	Compare claims and propositions across texts
Re-read	Use norms for reasoning within the discipline (i.e. what counts as evidence) to evaluate claims
Summarize	

Source: *Carnegie Report*, (2010)

Additional resources that support reading in specific subjects include *Content Counts! Developing Disciplinary Literacy Skills, K–6* by Jennifer L. Altieri (2011). This guide for discipline-specific literacy at the elementary level offers strategies to balance the demands of literacy while continuing to make content count and help students meet the reading, writing, speaking and listening demands of the content areas as they advance in school.

A resource by Doug Buehl (2011) entitled *Developing Readers in the Academic Disciplines* describes what it means to read, write, and think through a disciplinary lens in the adolescent years. This teacher-friendly guide helps connect literacy with disciplinary understandings to bridge academic knowledge gaps, frontload instruction, and build critical thinking through questioning.

Note on range and content of student reading

To become college and career ready, students must grapple with works of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students' own thinking and writing. Along with high-quality contemporary works, these texts should be chosen from seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare. Through wide and deep reading of literature and literary nonfiction of steadily increasing sophistication, students gain a reservoir of literary and cultural knowledge, references, and images; the ability to evaluate intricate arguments; and the capacity to surmount the challenges posed by complex texts. (CCSS p.35)

The Common Core State Standards require that all students “be able to comprehend texts of steadily increasing complexity as they progress through school” (Appendix A: Research Supporting Key Elements of the Standards, p. 2). More detailed definitions of complex text and examples of complex texts across disciplines are available in Appendix B of the English Language Arts CCSS at: www.dpi.wi.gov/standards.

Writing Connections

The Common Core State Standards call for emphasis on three types of writing: narrative, informational and logical argument. Writing that presents a logical argument is especially appropriate to discipline-specific work since credible evidence differs across content areas. The ability to consider multiple perspectives, assess the validity of claims and present a point of view is required in argumentative writing. These thinking and communication skills are “critical to college and career readiness” (Appendix A: p. 24).

A 2007 report entitled *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools* detailed research on writing to learn, rather than only for assessment, as having a significant impact on content learning.



The study found writing to learn was equally effective for all content areas in the study (social studies, math and science) and at every grade (4-12).

Note on range and content of student writing

For students, writing is a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt. To be college- and career-ready writers, students must take task, purpose, and audience into careful consideration, choosing words, information, structures, and formats deliberately. They need to know how to combine elements of different kinds of writing—for example, to use narrative strategies within an argument and explanation within narrative—to produce complex and nuanced writing. They need to be able to use technology strategically when creating, refining, and collaborating on writing. They have to become adept at gathering information, evaluating sources, and citing material accurately, reporting findings from their research and analysis of sources in a clear and cogent manner. They must have flexibility, concentration, and fluency to produce high quality first draft text under a tight deadline as well as the capacity to revisit and make improvements to a piece of writing over multiple drafts when circumstances encourage or require it. (CCSS p.41)

When a social studies teacher guides students in taking on the perspective of a person from a specific historical era, she might ask students to write a first person narrative from that perspective. Research into that era leads students to discover personal beliefs of that historical person. They may dig into the personal experiences, ideas, and events involved in the era to visualize life in that period. They then develop a rich understanding of the era and embed language from that era into the texts that they create. (Samples of discipline-specific writing across grades and content areas are available in Appendix C of the English Language Arts CCSS at: www.dpi.wi.gov/standards.)

Speaking, Listening and Language Connections

The ability to share ideas and orally communicate with credibility in a specific academic discourse empowers students and allows access to specialized groups. In *Situated Language and Learning: A Critique of Traditional Schooling*, James Paul Gee (2004) describes the need to prioritize these skills so that students are at ease as they enter situations connected to a

specific content area and are more likely to continue their learning in that discipline.

As expertise develops, students feel more and more comfortable applying knowledge and skills while speaking and listening in a specific discipline.

- A media course may teach students appropriate expression, tone and rate of speech when addressing a large audience.
- Listening carefully to questions posed is a specialized skill that debate facilitators develop.
- Scientists learn to listen for bias in the perspectives presented by peers to determine the reliability of scientific outcomes.
- Artists have very specialized and specific ways of speaking about the many aspects of a piece.

A policy brief from the Alliance for Excellent Education called, *Engineering Solutions to the National Crisis in Literacy: How to Make Good on the Promise of the Common Core State Standards* describes “a staircase of literacy demands” and emphasizes the importance of a progressive development of language and literacy over time.

The conceptual understanding of “functions” in mathematics may begin to develop in elementary school in its simplest form. As the concept develops over the years, students will use the word “function” in a meaningful way when speaking and writing to describe the mathematical concept they apply. When educators explicitly connect a mathematical term to its application and repeatedly expose students to the concept connected to the term, a specialized language becomes second nature to the mathematics classroom.

Students must have extensive vocabularies, built through reading and explicit instruction embedded in the context of content learning. This enables them to comprehend complex texts, engage in purposeful writing and communicate effectively within a discipline.



Skills in determining or clarifying the meaning of words and phrases encountered, choosing flexibly from an array of strategies, and seeing an individual word as part of a network of other words that, for example, have similar denotations but different connotations allow students to access information and support their own learning.

Literacy in Multiple Languages

Increasing economic, security, cross-cultural and global demands underscore the value of literacy in more than one language. Students who think, read, write, and communicate in multiple languages are an asset to our own country and can more easily interact and compete in the world at large.

English language learners (ELL) in our classrooms face significant challenges as they add a new language and work to grasp content at the same rate as their English-speaking peers. In a report to the Carnegie Corporation entitled *Double the Work: Challenges and Solutions to Acquiring Academic Literacy for Adolescent English Language Learners (2007)* researchers found that a focus on academic literacy is crucial for ELL's success in school. In their description of academic literacy they include reading, writing and oral discourse that:

- Varies from subject to subject.
- Requires knowledge of multiple genres of text, purposes for text use and text media.
- Is influenced by students' literacies in context outside of school.
- Is influenced by students' personal, social, and cultural experiences.

The needs of our English language learners are addressed when we embed disciplinary literacy strategies into our subject area teaching. These high impact strategies and skills allow English language learners and all students to more readily access content knowledge and connect it to the prior knowledge they bring to the classroom. When educators take the initiative to understand and embed these strategies and skills, they offer additional opportunities for success to all of our students.

Who Should Use the Common Core State Standards for Literacy in All Subjects?

The term “disciplinary literacy” may be new to many Wisconsin teachers. *The Common Core State Standards for Literacy in All Subjects* as excerpted from the *Common Core Standards for English Language Arts*, are intended for all K-12 educators. Each standard is written broadly in content-neutral language, breaking down the complex skills that comprise reading, writing, speaking, listening, and language. These standards serve as a complement to the specific content-related standards of each individual discipline. Administrators and communities may also find the disciplinary literacy standards helpful in charting a clear and consistent school or district-wide approach to literacy that moves Wisconsin forward toward the goal of every student career and college ready.



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