

# LITERACY *WITHIN* THE DISCIPLINES

Reading *across* the content areas? Every teacher a teacher of writing? Not so fast. Current thinking about literacy places reading and writing in its rightful place, firmly rooted *within* each discipline. This new model, aptly called “Disciplinary Literacy,” recognizes that reading, writing, thinking, reasoning, and *doing* within each discipline is unique—and leads to the understanding that every field of study creates, communicates, and evaluates knowledge differently. As such, each content-area teacher is responsible for showing students how to use discipline-specific literacy skills as tools for accessing content and, with a sigh of relief, incorporating reading strategies only when they make sense within the context of the discipline.



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How does this approach differ from the old “content-area reading” approach? As an example, let’s look at a skill needed for comprehension of most texts, making an inference. Using the content-area reading approach, every teacher might use the same strategy to teach students how to make an inference—a two-column chart, perhaps, with “What the Author Says” in one column and “What the Author Means” in the opposing column. But we’re learning that it’s not quite that simple. Understanding inferences in history might require that the reader infer the perspectives of primary and secondary documents regarding the same event. Such a process requires a different approach than when making an inference in English language arts (ELA) where students must “read between the lines” to interpret the actions of a character or untangle a metaphor. And an inference in science might look more like a hypothesis with data to back up the hunch. An inference is far less nuanced in math, relying more on discernible patterns than on interpretation.

Along with this more reasonable approach comes a sense of empowerment for content-area teachers. Those who never felt qualified to teach “reading”—and said so from the beginning—can now feel confident in their abilities to teach literacy as it relates to their discipline.

As I put the finishing touches on this book, Nancie Atwell, the legendary teacher and author who put reading and writing workshops on the map, has just won the Varkey Foundation’s first Global Teacher Prize with an award of one million dollars. During an interview on CNN, she discussed *disciplinary literacy*, though she didn’t use that phrase. She talked about how her students are given time in class each day to practice reading and writing—the “doing” of her discipline. She said of her students, “They are authentic readers and writers. They read and write the way you [the interviewers] do. Because they do, they know what reading and writing are good for.” Imagine if students in all disciplines were authentically “doing the work” and developing the academic habits of those in the field. Education would be transformed.

## **The Problem With Reading Strategies**

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For many years, reading strategies have dominated the literacy scene. Just open the pages of any teacher’s edition, and you’ll find whole

sections devoted to every strategy imaginable—and then some. While reading strategies can certainly help students unlock difficult text, the pendulum swung too far, as is often the case in education, and the strategy at times became more important than the content. Students were tested on how well they used strategies (ten sticky notes equals an A, for instance), and many schools even jumped on the strategy-of-the-week bandwagon.

Strategies can be shortcuts through content because they are generic to *any* text, primarily used for the purpose of creating better readers and writers overall who, incidentally, might then score higher on standardized tests. But as far as disciplinary learning goes, strategies don't always live up to their reputation. In fact, despite the wholesale strategy blitz, American high school seniors showed no improvement in their reading abilities in four years, according to the latest National Assessment of Educational Progress (NAEP).

What we are coming to understand is that readers must know something about the content in order to use a strategy effectively. Science teachers, especially, argue that students may apply the strategy to perfection but have no conceptual understanding of the content due to a topic's complexity.

Echoing this thought, National Council of Teachers of English's (NCTE) Policy Research Brief on Literacies of Disciplines (2011) quotes researcher Elizabeth Moje as saying, "Strategies—absent some level of knowledge, a purpose for engaging in the literate practice and an identification with the domain or the purpose—will not take readers or writers very far" (p. 2).

## STRATEGY FATIGUE FOR TEACHERS

The difficulty with strategies turned out to be twofold. First, as noted earlier, general across-the-curriculum strategies frequently turned into exercises rather than thoughtful tools for reading. Students were not always taught when to use the strategy or how to adapt it to disciplinary text. Making a prediction about what a character will do next could help some ELA students better understand internal conflict, just as making a prediction in science could help students more actively engage with an

experiment; but asking a student in social studies to make a prediction without background knowledge or context about where a certain country is located might well be a waste of instructional time. Rather than just plugging in preselected reading strategies, we want kids thinking about *what* and *how* they are reading. Second, teaching strategies in isolation often strains an already overburdened curriculum. This “one more thing to do” approach is understandably frustrating, often ineffective, and has at times created resentment among content teachers who may feel literacy is the job of the ELA or reading teacher.

Shifting the paradigm into a more discipline-based approach helps all teachers understand that literacy is an inherent part of each discipline, one that *supports* content learning. And who knows better how to show students the literacy skills fundamental to a specific discipline than the content-area teacher? Students then walk away with more than a bag full of strategies. They come to know how reading, writing, speaking, and thinking function in each discipline and are able to gather multiple perspectives about the role of literacy, creating a flexible “culture of literacy” that will serve them well in college or career.

## Unpacking Disciplinary Literacy

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*Teachers must move from transmitting information to showing students how to engage in the literacies that make up their discipline.*

The working definition of *literacy* has changed as much as this new approach to it. Turning again to NCTE’s Policy Research Brief on Literacies of Disciplines (2011), we read that “literacy is not a single or monolithic entity. Rather it is a set of multi-faceted social practices that are shaped by contexts, participants, and technologies” (p. 1). Literacy was once thought to be a set of skills necessary for reading and writing, but we have now moved far beyond the printed page to include in our definition of texts anything that helps us make meaning, whether in visual, audio, or multimodal format. And those social practices mentioned in NCTE’s document begin in the classroom, extend to the family and the workplace, and continue throughout the entire global community. That’s why there is a renewed interest in collaborative learning, which I address in Chapter 5.

To complicate a description of literacy that is just starting to make sense, both literacy and texts look different in various disciplines. The most

obvious example in the four major disciplines is literacy in math, which cannot truly be compared to literacy in any other content area. Other subjects such as the arts rely on extremely specialized texts: “musical scores, lighting diagrams, human bodies, conductors, and other signs [are] used to represent meaning” says Roni Jo Draper (2015) in an article on disciplinary literacy. “As such, the definition of literacy . . . consists of the ability to use texts in discipline-appropriate ways or in ways that disciplinary experts would recognize as correct” (p. 59).



Tina Reckamp

Tina Reckamp’s students create a word wall that utilizes the language of math.

The University of Pittsburgh’s Learning Research and Development Center has been working with disciplinary literacy since 2002 and has even developed a model for its use in the content areas. Their definition of the term is comprehensive and best represents what I mean when I discuss disciplinary literacy: “Disciplinary Literacy involves the use of reading, reasoning, investigating, speaking, and writing required to learn and form complex content knowledge appropriate to a particular discipline” (McConachie, 2010, p. 16).

Moje (2008) layers another dimension to the definition when she argues that disciplinary learning doesn’t just build knowledge but actually produces or constructs it.

Based on these understandings, it’s clear that we have a lot of work to do within the disciplines because constructing knowledge requires skills that go much deeper than teaching students to employ reading strategies or fill in a bubble on a test. It means that teachers must move from transmitting information to showing students how to engage in the literacies that make up their discipline. This approach involves a different vision of what it means to teach, one that doesn’t just show students how to read but how to critique what they are reading, doesn’t just

expect students to find evidence but what to do with that evidence, and doesn't just parcel out knowledge but asks students to use knowledge in meaningful and relevant ways.

## Deeper Learning and Disciplinary Literacy

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*Disciplinary literacy is not the application of strategies to the disciplines; it is a way of learning that drills deeply into the very essence of what it means to come to know content.*

One of the reasons that disciplinary literacy is so important is that it has everything to do with deeper learning, a phrase many researchers and educators use to encompass more familiar terms such as *critical thinking*, *higher order thinking*, and the now ubiquitous *rigor*. The first column in Figure 1.1 shows the attributes of deeper learning from The Hewlett Foundation (n.d.); the second column reflects their relationship to disciplinary literacy. The application in italics explains how deeper learning might look in a disciplinary literacy (DL) classroom.

We see once again that disciplinary literacy is not the application of strategies to the disciplines; it is a way of learning that drills deeply into the very essence of what it means to come to know content.

## Disciplinary Literacy and Standards

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For administrators and teachers who are working with the Common Core State Standards (CCSS; also Common Core) as a way to ground literacy within the disciplines, this approach makes perfect sense. Best of all, it honors the expertise of content-area teachers who may be resistant to the standards' literacy "push." Instead of treating each standard as an isolated learning target to be posted and checked off, this model weaves literacy into the basic fabric of content, satisfying the intent of the standards and the goals of teachers.

In any case, there is plenty of evidence to support the use of disciplinary literacy within the Common Core as well as within 21st century learning initiatives and the standards several states have adopted in place of Common Core. Not only is literacy emphasized in every state's standards,

**Figure 1.1**

## **The Connection Between Deeper Learning and Disciplinary Literacy**

Deeper Learning	Disciplinary Literacy
Results in the mastery of core academic content	Results in the mastery of core academic content by developing expertise in specific disciplines
<i>Application: Students master content by engaging in the habits of thinking and “work” of the discipline.</i>	
Employs critical thinking and problem solving	Employs critical thinking and problem solving by engaging in the methods and inquiries of a discipline
<i>Application: Students employ creative and critical thinking to identify and solve discipline-specific problems.</i>	
Relies on collaboration	Relies on collaboration within the classroom community that mirrors the work done by those in the field
<i>Application: Students learn how to become self-directed within a team as they plan, share, and assess learning within a discipline.</i>	
Fosters an academic mindset	Fosters an academic discipline-specific mindset by learning and experiencing the foundational facts, skills, norms, and habits within a discipline
<i>Application: Students find meaning as it relates to the discipline as they wrestle with project plans, disciplinary principles, and demonstrations of learning.</i>	
Is supported through communication in writing and speaking	Is supported through communication in writing and speaking as discipline-specific tools for engaging in the work of the discipline
<i>Application: Students learn how to use writing and speaking as they act as apprentices in a given discipline.</i>	

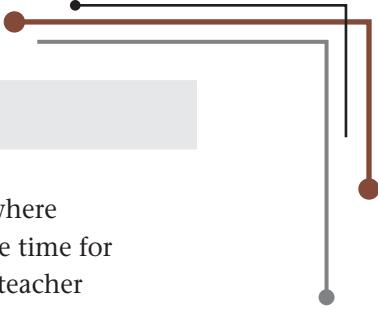
but disciplinary learning is addressed in corresponding standards, such as The Next Generation Science Standards. If you aren't convinced, read Michael Manderino and Corrine Wickens' 2014 article from the *Illinois Reading Council Journal* titled "Addressing Disciplinary Literacy in the Common Core Standards" and use their analysis as justification for redefining literacy in content-area study.

It's also worth noting here that researchers have been writing about disciplinary literacy for some time but, as always, it takes a while for practice to catch up with research. In education, it may be even more difficult to make such a transition, not only because of the vastness of a system populated with students unique to every classroom in every state but, let's face it, also because of the long fingers of politicians who sometimes make decisions not in the best interest of teachers or students. As this new paradigm takes hold, however, I predict a shift by policymakers to view literacy as a natural outgrowth of disciplinary learning.

## **The Role of the Teacher**

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But where do content-area teachers begin? How do they step back from "presenting" content and begin to infuse literacy skills into every class, every day, so that students can produce and not just memorize information? It's true that professional development must target disciplinary "ways of knowing" instead of generic reading strategies, but teachers also must be given permission to use their professional expertise, preferably within professional learning communities (PLCs) or with colleagues, in selecting texts, curriculum, and tasks that push students beyond superficial facts to deeper understanding through immersion in reading, writing, thinking, and social practices. Teachers must be free to employ the tools, texts, and principles of their discipline to give students opportunities to *use* and *apply* knowledge, and that, in most middle and high schools, is a big order. But that big order *can* be handled by teachers who are expert in their disciplines and administrators who trust them to do their jobs.



## Spotlight on Science

A large district joined others in adopting early release days where students are dismissed after half a day once a month to make time for teachers' professional development. Danita Hubert, physics teacher in a high school, decided to attend a workshop titled "Digging up Learning Through Questioning," since science is all about investigation. A few minutes into the presentation, Danita realized she needed the advanced course in questioning or, more likely, one targeted to the role of questioning in science. In physics, and in most of science in general, reading and reasoning are all based on asking the right questions, a skill Danita emphasizes from the first day students step into her class. "I teach kids to form questions in their heads at every stage of a problem: *Why? What happened? What is the difference? How do you know? What if?* The session I had chosen was about the importance of questioning—which I totally get—and a sort of formulaic approach to having kids learn to create good questions, a procedure that was better suited to history than to physics."

Danita's observation is vitally important with regard to disciplinary literacy. Formulating questions you want to ask the writer of an op-ed piece is a very different process from asking questions in a physics class; for example, *Why do heavier objects fall more quickly than light objects?* and then finding the answer through still more questions.

Perhaps Danita's valuable professional development time could have been better spent talking with her colleagues about how they lead students through investigations by asking pertinent questions or by reading and discussing with peers *How Students Learn: Science in the Classroom* (Donovan & Bransford, 2005). It's not that cross-disciplinary professional learning isn't important at times; it's just that focusing on issues inherent to the processes and content of a specific discipline can be a more efficient way of learning what works in your discipline—and what doesn't.

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## Disciplinary Reading, Writing, Inquiry, and Collaboration

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In this volume, you will find four large chapters bookended by two smaller ones. Admittedly, each of the four major chapters could be a mini-book unto itself—reading, writing, inquiry, and collaboration—as these practices build the foundation of learning in every discipline. I present the chapters as springboards for disciplinary thinking as these components often have been neglected by teachers unable to differentiate and subsequently reclaim their content due in part to one-size-fits-all strategies, scripted programs, across-curriculum mandates, and fidelity to the textbook.

Now, at last, we have an approach to literacy that makes sense. One that teachers can use to *engage* students in the many dimensions of their disciplines. Read this book with a skeptical eye—just as we want all readers to approach text—and use or adapt the ideas, suggestions, activities and research to regain your content—and, perhaps, even your own teaching lives.

## Suggestions for Further Reading

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- “Addressing Disciplinary Literacy in the Common Core Standards” by Michael Manderino and Corrine Wickens, 2014.
- Adolescent Literacy in the Academic Disciplines: General Principles and Practical Strategies* by Tamara L. Jetton and Cynthia Shanahan, 2012.
- Content Matters: A Disciplinary Literacy Approach to Improving Student Learning* by Stephanie M. McConachie and Anthony R. Petrosky (Eds.), 2010.
- Deeper Learning: Beyond 21st Century Skills* by James A. Bellanca (Ed.), 2015.
- Disciplinary Literacy: Why It Matters and What You Should Do About It* by Elizabeth Birr Moje, 2010. Available at <https://www.youtube.com/watch?v=Id4gKJ-wGzU>
- Envisioning Knowledge: Building Literacy in the Academic Disciplines* by Judith A. Langer, 2011.
- Literacies of Discipline* [Policy brief] by National Council of Teachers of English, 2011.
- “Using the Common Core State Standards to Support Disciplinary Literacies” by Roni Jo Draper, March 2015.

# Making it Relevant

1. How would you define literacy in your discipline?
2. What does deeper learning look like in your discipline? How about rigor?
3. If you had to name *the* most important skill students need in your discipline, what would that be? How does it compare to skills they may need in other subjects?
4. What has been your approach to literacy learning within your discipline in the past? What works? What would you like to change?

*Notes:*

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