Literacy in Every Classroom
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Disciplinary Literacy: A Shift That Makes Sense

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Becky Stewart, a high school physics teacher, had attended so many workshops on reading strategies that she felt as if she could teach a session herself. She tried to do what was asked of her, utilizing K-W-L charts and close reading strategies, but she jokingly told her friend that if one more person told her that every teacher was a teacher of reading, she would quit her job and find work in a research lab.

For years, disciplinary teachers have felt they were being asked to supplement their content with a separate reading curriculum. "I'm not a reading teacher," Becky explained. "My degree is in science, and I want to teach science. I really don't want a job where I am responsible for teaching kids how to read and write."

Becky is not alone. Even English teachers point out that they, like other content-area teachers, have a full curriculum that doesn't start or end with basic literacy skills. And beware of asking a math teacher, whose very language is often represented in ways other than the alphabet, what she thinks of the reading strategy movement. Elective or special area teachers, such as those who teach music or the arts, are also often asked to include literacy strategies in their teaching, though their texts may be in the form of props, canvas, clay, or sheets of music rather than a traditional book. Since a text is really anything imbued with meaning (Draper, 2015), it doesn't make sense to require teachers who rarely use print-centric materials to employ traditional reading methods to help students gain understanding.

One of the problems with such a narrow definition of text is the "one-size-fits-all" reading strategy movement, where generic strategies are often used as isolated activities completely unrelated to the content. Some schools, for instance, implement "strategies of the week" in which all teachers must use a common concept map or have a similar word wall related to their current unit of study. Such an approach doesn't help students understand when and how a strategy might be used or adapted, and it can actually undermine their ability to become independent and flexible learners.

Enter Disciplinary Literacy

Disciplinary literacy takes a turn away from isolated content-area strategies and clarifies what teachers can do to help their students learn in a more effective way. It respects the varied ways that students read, reason, write, think, speak, and, most important, *participate* in specific content areas. Researcher Elizabeth Moje (2010) deepens the definition by arguing that disciplinary learning doesn't just build knowledge but actually produces or constructs it. Let's consider the K-W-L mentioned earlier. This strategy has been shown to be generally effective in helping students

- Reflect on what they already know (What I know).
- Set a purpose for reading (What I want to know).
- Review what they have learned (What I have learned).

However, it would be much more useful if the strategy were customized to various content areas, directing students to use their new knowledge. In other words, in a disciplinary literacy approach, the K-W-L strategy becomes something different for each content area:

- Observe-infer-conclude in science (Alvermann, Gillis, & Phelps, 2009)
- Deconstruct-solve-apply in math
- Analyze-compare/evaluate-infer in history
- Summarize-evaluate/analyze-write in English
- Listen-comprehend-speak in foreign language
- Observe-analyze-express in art

Content-area writing is similarly specific to each discipline. For example, a well thought-out metaphor may enhance a piece of writing in an English class but would hardly work for a written deconstruction of a math problem or the concise, factual writing needed in science. Getting students to think about content also requires targeted disciplinary skills. When a teacher asks students to think like a historian, he means that they must learn how to intuitively source materials, read closely for underlying bias, and engage in an analysis of the text or a comparison of one text to another. This sort of thinking, although it shares some commonalities with other disciplines, helps students learn how to specifically engage in the subject of history as opposed to, say, math or science. In short, disciplinary literacy is about *doing* the work of the disciplines instead of merely reading about it.

Diving into Disciplinary Literacy

But how do busy teachers make the shift to a disciplinary literacy classroom? It requires an embedded approach that honors the expertise of content-area teachers. First, they must identify what students need to learn and *do* to become successful in their content areas, preferably through dialogue with colleagues who teach the same content. Once they have named such skills and behaviors, they should focus on how to teach these skills while teaching content—not as a sidebar to the content. Admittedly, teachers may need to engage in a book or lesson study or even participate in a professional development opportunity to learn how best to teach the identified skills, but focusing on literacy skills *within* the disciplines brings to life a much richer schoolwide curriculum as students learn how to use literacy for different purposes in various subject areas.

What Are Literacies Within the Disciplines?

The following lists for each of the major content areas, although not comprehensive, can act as starting points through which communities of teachers can begin to think in terms of disciplinary literacy (Lent, 2016). Click here to download the list as a shareable PDF.

Science

When scientists read, they

- Ask "Why?" more than "What?"
- Interpret data, charts, and illustrations
- Seek to understand concepts as well as words
- Determine validity of sources and quality of evidence
- Pay attention to details

When scientists write, they

- Use precise vocabulary
- Compose in phrases, bullets, graphs or sketches
- Use passive voice
- Favor exactness over craft or elaboration
- Communicate in a systematic form

When scientists think, they

- Tap into curiosity to create questions
- Rely on prior knowledge or research
- Consider new hypotheses or evidence
- Propose explanations
- Create solutions

History or Social Science

When historians read, they

- Interpret primary and secondary sources
- Identify bias
- Think sequentially
- Compare and contrast events, accounts, documents and visuals
- Determine meaning of words within context

When historians write, they

- Create timelines with accompanying narratives

- Synthesize information/evidence from multiple sources
- Emphasize coherent organization of ideas
- Grapple with multiple ideas and large quantities of information
- Create essays based on argumentative principles

When historians think, they

- Create narratives
- Rely on valid primary and secondary sources to guide their thinking
- Compare and contrast or ponder causes and effects
- Consider big ideas or inquiries across long periods of time
- Recognize bias

Math

When mathematicians read, they

- Use information to piece together a solution
- Look for patterns and relationships
- Decipher symbols and abstract ideas
- Ask questions
- Apply mathematical reasoning

When Mathematicians write, they

- Explain, justify, describe, estimate or analyze
- Favor calculations over words
- Use precise vocabulary
- Include reasons and examples
- Utilize real-word situations

When Mathematicians think, they

- Consider patterns
- Utilize previous understandings
- Find connections
- Estimate, generalize, and find exceptions
- Employ mathematical principles

English

When students of English read, they

- Understand how figurative language works
- Find underlying messages that evolve as theme
- Assume a skeptical stance
- Pay attention to new vocabulary or words used in new ways
- Summarize and synthesize

When students of English write, they

- Engage in a process that includes drafting, revising, and editing
- Use mentor texts to help them with the craft of writing
- Pay attention to organization, details, elaboration and voice
- Rely on the feedback of others
- Avoid formulaic writing

When students of English think, they

- Reflect on multiple texts
- Ask questions of the author
- Consider research or others ideas
- Discuss ideas and themes
- Argue both sides of a point

As teachers discuss the skills students need in their content area, they can expand these lists and then determine the most effective instructional practices to help students practice and master such skills—all while engaging in the authentic work of their disciplines.

Through disciplinary literacy, we can create readers and writers who come to use literacy for its highest purpose—learning—with an expert by their side, a content area teacher who not only understands the subject but also how to use literacy to unlock it.

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