

The Many Facets of Critical Disciplinary Literacy

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The *Many Facets of Critical Disciplinary Literacy* (Figure 1) is a heuristic that we use to help organize resources and professional learning. It is not a testable research model. The purpose of the Many Facets heuristic is to help organize specific research-based resources for use in schools ([see our blog on approaches to translating research to practice](#)). Considering and supporting the cultures of our partner schools, teachers, and students is an essential part of all of our work.

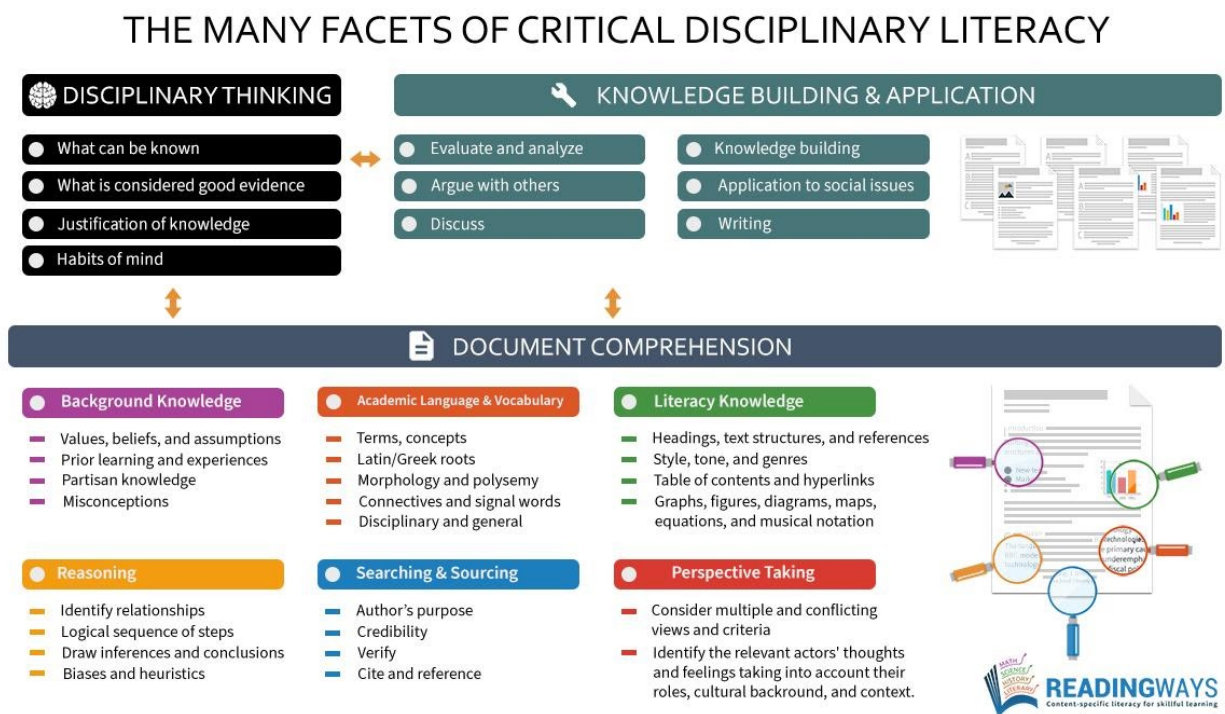


Figure 1: The Many Facets of Critical Disciplinary Literacy

The Many Facets considers three broad areas required for skilled reading. One area is related to an understanding of the purpose of reading. The content area or discipline of the text largely shapes this dimension, and it relates to what we call **disciplinary thinking**. The next area relates to the skills used when reading a particular text (i.e., requisite background knowledge, vocabulary, understanding of authors' biases or purpose). We label these skills under the heading **document comprehension**. Lastly, skills related to what we do with the knowledge after reading are labeled **knowledge building and application**.

Disciplinary Thinking

Disciplinary thinking refers to authors' and readers' stances when engaged in disciplinary reading and learning. For instance, scientists assume that knowledge is tentative and obtained by careful observation and testing of the natural world. On the other hand, mathematicians do not support their arguments with empirical evidence but rather with internally consistent proofs. These differences influence the meanings of words we use in each class (e.g., the word evidence in math or science classes), the textual forms we value (e.g., data tables, equations, maps), and justifications used in each discipline. Being explicit about disciplinary purposes helps students understand the text forms, arguments, and disciplinary words used in our classrooms (learn more on our blog post on the science of [reading and disciplinary literacy](#)).

Ways of thinking can vary almost as much between disciplines as they do within fields. For example, the methods and academic perspectives developed in economics, politics, and psychology are related but are also interestingly distinct. Law and anthropology are related because they both use case studies, but distinct because anthropology uses personal experience to make interpretation and law, uses guidelines/protocols (Becher & Trowler, 2001). For this reason, it can be helpful to consider the subdiscipline of the text we are reading.

Document Comprehension

Even when students understand the norms and expectations of a discipline and subdiscipline, they still need to make sense of specific (often complicated) texts, tables, and figures. We categorized these skills to align with breakthroughs in the science of reading and our particular instructional approaches.

Background knowledge: Students need to know the meanings of key ideas (e.g. ecosystem, habitat) to comprehend disciplinary texts (O'Reilly, Wang, et al., 2019). Not knowing key information is even more problematic for students who do not realize they are wrong (O'Reilly, Sabatini, et al., 2019).

Instructional focus:

- activating background knowledge
- surfacing misunderstandings
- creating multiple entry points to the topic
- Example strategy: [Anticipation guide](#)

Reasoning: Students need to follow and integrate arguments, structures, and plot lines across multiple documents expressing diverse and even contradictory viewpoints (Bråten & Braasch, 2017).

Instructional focus:

- Scaffold student engagement
- Make arguments explicit and help students work through sophisticated reasoning.
- Example strategy: [Argumentation organizer](#)

Academic language and vocabulary: Academic words such as *evaluate*, *contexts*, *evidence*, and *relevance* are used across disciplinary boundaries but have slightly different meanings that can confuse students. The word *distribution* in math is related to frequency distribution, while in social studies, it might refer to the distribution of power (Lawrence et al., 2021).

Instructional focus:

- Use words in supported contexts, morphology, polysemy
- Use words across modalities, so students have chances to read, write, speak and listen to new vocabulary (Lawrence et al., 2017)
- Example strategy: [Frayer model](#)

Searching and Sourcing: How students search for and evaluate a text. Students will not learn this if they only encounter “correct” texts and are not forced to wrestle with opposing views and texts with variable credibility levels (Bråten et al., 2014)

Instructional focus:

- Create explicit sourcing rules
- Use multiple texts
- Example strategy: [Inquiry chart](#)

Literacy Knowledge: What are the unique text features used in your discipline? How do authors use headings, references, graphs, figures, and equations to communicate to other experts?

Instructional focus:

- Providing students with explicit scaffolding. Practice reading and producing the literacy forms.
- Example strategy: [Treasure hunt](#)

Perspective Taking: The skill of inferring, considering, and evaluating others’ perspectives is an essential precondition for social and academic interactions (LaRusso et al., 2016).

Instructional focus:

- Scaffolding argumentation and rich academic discussion
- Example strategy: [Rebuttal battle](#)

Content instruction supports acquiring these facets of disciplinary literacy. However, suppose teachers are not explicit about these features. In that case, students may not become adequately prepared to read and write independently. They may be unprepared for texts they encounter in the workforce, online, or on an achievement test. Instruction, therefore, also needs to be centered around disciplinary texts because it is difficult to understand these areas of disciplinary literacy except with reference to the discipline's texts and content.

Knowledge Building and Application

The last dimension of our heuristic focuses on *knowledge building and application*. We recognize that we read in the content areas to integrate new knowledge with what we already know and that this integration is done for specific purposes. For students to successfully integrate (and apply) new knowledge, they need strategies to track information across multiple sources to organize and reflect on their interpretation or solution.

Middle and high school students often get stuck reiterating their argument with little consideration of counterpoints (Kuhn & Crowell, 2011). For students to learn new information and use it to develop arguments and rebuttals, they need explicit instruction and support in how to do so. Unfortunately, even when we are explicit in teaching our content, we often under-support helping students integrate new information with what they know. We can do so by providing exemplars. That might be a video, paper, or example discussion demonstrating how learning can be integrated with existing information and applied. Many of our partner teachers have found great success using and adapting discussion protocols. They report that having students working through new ideas in discussion is a great way to prepare for a writing assignment. Discussion protocols set a clear structure for turn-taking, roles assignment for each student, and limit the length of the discussion.

Reading Ways support all facets of disciplinary literacy by developing a tailored professional learning sequence launched and led by school leaders. Learn more about our teacher course sequence [here](#).

NOTE: We have clearly been influenced by scientific models of the reading process, especially those that focus on aspects of verbal comprehension. For instance, like the Lexical Quality Hypothesis (Perfetti, 2007; Perfetti & Stafura, 2014), we believe that robust vocabulary knowledge is essential to skilled reading. We have also been influenced by the DIME model in seeing background knowledge as critical to adolescent reading comprehension (Ahmed et al., 2016; Cromley et al., 2010). The Many Facets acknowledges that reading today is usually done across multiple documents and acknowledges models of comprehension that focus on how students integrate meanings within and across texts (Perfetti et al., 1999). This model has been influenced by the The Rand Reading for Understanding model which includes the “sociocultural context” as the outermost layer (Snow, 2002). We believe that the cultural assumptions we bring to reading and the representations we encounter in text affect all the dimensions mentioned above and others.

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