

Reading Within Each Discipline: Incorporating the Standards for Literacy in Science

Many teachers voice the complaint, “My students can’t read the textbook!” Most likely, the problem is not the students’ inability to read as in decoding the words; however, the students might lack the skills to organize and comprehend the information. Some students might need assistance when reading informational (nonfiction) texts. The Common Core State Standards (CCSS) emphasize reading informational texts across subject areas. According to the CCSS for Reading, “the vast majority of reading in college and in the workforce training programs will be sophisticated nonfiction.” Therefore, the CCSS are designed to prepare students for life after graduation.

Reading is a complex task that involves interpreting graphic symbols, comprehending information, and processing the author’s message. Table 1 lists some of the skills used by proficient readers before, during, and after reading a text. By the time students graduate from high school, they should be able to independently and proficiently comprehend the texts that are commonly used in college and in the workforce. Teachers should not interpret the “text” in the standards for literacy in science to solely mean the textbook. Too often textbooks are used passively and the students do not learn how to effectively interpret the text to encourage further interest in a subject. Expanding learning beyond the textbook empowers students to learn outside the classroom and exposes them to topics and different perspectives that might not be found in an adopted textbook. Teachers should introduce their students to a broad array of supplemental science texts including refereed science journals, current event articles, and valid websites.

Table 1: Skills Used by Proficient Readers Before, During, and After the Reading Process

Before Reading	During Reading	After Reading
Preview text structure	Visualize content	Summarize what was read
Activate prior knowledge	Reread to clarify confusion	Reread to locate information
Review unknown vocabulary	Make connections	Clarify meaning
Brainstorm related ideas	Build on prior knowledge	Synthesize new information
Scan figures and diagrams	Observe text structure	Evaluate the author’s purpose
Generate questions	Monitor understanding	Generate new questions
Anticipate the content	Seek answers to questions	Discuss and share information

In order to be “Ready by Exit,” students need to be able to apply a variety of comprehension strategies automatically and independently. Although the reading strategies are often considered the task of the English language arts teacher, comprehension strategies work best when they are used across the curriculum. Science teachers can help prepare their students to meet the requirements of the Common Core reading standards by integrating effective reading strategies and grade-level appropriate texts into their lessons. The following reading strategies can be used in any classroom. Since there is no “one size fits all” approach to teaching reading comprehension, it is the teacher’s responsibility to decide which strategies will work best with his or her students.

