Current Event #1: Literacy

Creating a culture of literacy in science in the classroom stimulates student interest and facilitates student learning. A middle school science teacher in Oxford, PA, Roberta Ann McManus, incorporates literacy in her classroom everyday: Her students read newspaper and magazine articles or search on the Internet and discuss science-related current events. During Daily Independent Reading Time, they choose from her class library books related to the lesson. As students are exposed to the content repeatedly across diverse media of information, they begin to see the life applications and build stronger connections to the concept. Through the instructor guided reading and writing in science, the students learn to apply the strategies in understanding the content in the text and furthermore analyzing scientific research journals.

Science literacy is defined as “the development of educated citizens who can engage intelligently in public discourse and debate” (B. Hand et al. 1999). This is an expectation beyond proficiency in the content standards and the standardized tests. The goal of science education includes bringing up a generation who can discern the validity of advertisements, weigh the long-term cost-value of proposed legislative issues, and participate in public awareness.

Student learning progresses from passively collecting new facts to actively sorting prior knowledge and connecting to the new knowledge. In the process, students can construct knowledge through investigation and reasoning. Kuhn
proposes reasoned argument, dialogic argument, and rhetorical argument as a general pattern. The steps align with the objective of science literacy.

The first journal article, *A Culture of Literacy in Science*, by Donna Hooker Topping and Roberta Ann McManus, demonstrates the power of reading and writing in science. Examples showed a glimpse of what it could look like in a classroom. As the teacher plans the lesson beyond the textbook and the school administrators and the colleagues support the literacy program schoolwide, the students improve not only in their literacy skills but also in their comprehension of the content. The article had strength in including the student-teacher interaction and other examples of bringing literacy to science classroom, but it did not explain the research step by step. Throughout the article, other studies were cited and also referenced at the end.

Another article I read began by defining what science literacy and nature of science were and relating to epistemology and reasoning in the framework for writing in science. Teaching examples included were the newspaper article, class concept map, and group or individual report writing for peers. The strength of the article lied in presenting the multiple factors in science literacy and their interdependence. Although the overall view expanded literacy beyond the context of the classroom to the global, I thought that it was not explicitly applicable to teaching in the classroom.
