

Integrating Literacy into a Science Classroom

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The article, *Literacy Engagement and Its Role in the Science Classroom* (McGlynn and Kozlowski, 2016) resonated with me as a third-grade teacher who is required to teach all subjects and who struggles with literacy engagement. My students cheer when I tell them when it is time for science but I don't get such an enthusiastic response for reading. How can I help my students to transfer their love for science to reading? After reading the article, I hope to pique my students' interest using purposeful content-area reading materials throughout my science curriculum.

Our current science program is FOSS with outdated kits and textbooks. Years ago, when I would use the textbooks, students would groan when we would take them out. The content was dry and the vocabulary was too high level for most students. For many of my learners, reading the science textbook was like reading a foreign language. Also, the content from a science textbook can quickly become outdated and not relevant to students' lives. In addition, textbooks often emphasize one perspective on a concept or issue and students tend to think science is just a collection of facts and figures. But most importantly, science textbooks do not arouse the curiosity of students in the world around them. Being scientifically literate is more than being able to "read" science texts and recognize scientific vocabulary, rather it is "the ability to

comprehend, interpret, analyze, and critique texts and actively engage in the discourse of science” (Norris & Phillips, 2003).

According to McGlynn and Kozlowski (2016), to increase literacy engagement in the science classroom, educators must choose reading materials with a purpose that fit content objectives, pique students interest, and are on a level that students can read independently.

McGlynn and Kozlowski (2016), recommend to seek out help from the school reading specialist and ask for independent reading levels of students, or, if you are like me, test students myself to determine reading levels. Once reading levels are determined, teachers can look for texts that engage students and relate to the content in the science curriculum or NGSS standards. If students can read the material at their own level, they gain confidence and understanding of content-area reading tasks. For ELD students, reading text with a partner or in a small group will allow them to comprehend a higher-level text. Suggestions would be to find text with multiple levels using a source such as Newsela or to find different texts at varying levels that cover the same content. Newsela is a free online resource that allows educators the ability to search for articles, by content area, theme, or grade level. Newsela also allows teachers to customize text sets, and find articles from different genres with varying levels of difficulty. Text sets are defined as “collections of resources from different genres, media, and levels of reading difficulty that are designed to be supportive of the learning of readers with a range of experiences and interests”

(NCTE/IRA 2004). Students can log in to Newsela on their computer and read a text article that is their reading level without others in the class aware of their level which respects their privacy. This feature allows teachers to differentiate the curriculum so students can read without frustration and those who would benefit can be challenged.

Educators, like myself, often think they must sacrifice reading instructional time for science and are hesitant to do so. After reading the article by McGlynn and Kozlowski (2016), I am eager to use non-fiction texts to combine literacy instruction with inquiry-based science instruction. Non-fiction texts can build content knowledge by raising students' curiosity, raise inquiry-based questions and build background knowledge. Students can learn from mentor texts as students begin to think like a scientist, using charts, diagrams, maps, and written journals. In addition, students engage in authentic literacy tasks as they link literacy skills to purposeful, meaningful tasks (Fries-Gaither & Shiverdecker, 2014/2015). As Seddon (2017) states, "By integrating literacy skill development into the science curriculum, students will be able to build their capacity to transfer their learning about scientific concepts and practices to real-world problems."

It is important to gauge student interest on topics through classroom discussions, questions generated by students, and by encouraging students to bring in current events they find interesting. A classroom survey is another effective way to find out what topics the students are

curious about and the teacher can guide students towards topics that support science standards.

The closer that literacy activities match students' values, needs, and goals the greater the likelihood that students will expend effort and sustain interest in them (Pitcher, et al., 2007).

Educators, like myself, often struggle with how to motivate and engage students. The article by McGlynn and Kozlowski (2016) provides ideas for teachers looking to integrating literacy into their science classroom. Students will become engaged readers if they have texts available that are written at their independent and instructional levels. Teachers can use websites such as Newsela to find appealing articles that support the science curriculum and customize them to meet the needs of their students. As Seddon (2017) concluded, “through reading quality texts on a variety of science topics and applying relevant reading strategies, students broaden their domain knowledge about science, deepen their inquiry learning, and foster reading habits that can last a lifetime.”

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