Geophysical Research Abstracts
Vol. 20, EGU2018-10886-1, 2018
EGU General Assembly 2018

Real Data, Real People, Real Reading

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The science classroom of tomorrow will be driven by collaboration; realtime data use; and knowledge acquisition through authentic literacy opportunities, such as reading and analyzing science-related books and nonfiction science literature and articles.

Sharing information and collaborating with other students from around the globe is an important skill for students to have as the world becomes more interconnected and dependent on others for our success. A multitude of classrooms have already begun to incorporate a variety of technology skills into their everyday lessons. Platforms like Google Drive/Classroom, YouTube, blogging sites, and others have allowed students to come together with one another on a host of projects, activities and labs within their own school, across the country, or globally. Students are able to run labs and experiments much like scientists do, collaborating with members of a worldwide community. Students are using a variety of internet sources to form an opinion on a topic backed by facts then share their results through a blogging site. One necessary step towards the goal of teaming up on an international scale is for students to gain access to the necessary technology and develop the appropriate technology skills to enable collaboration with the rest of the world. The classroom of tomorrow will be one where these tools, as well as others, will be used to make a classroom a truly worldwide learning experience.

The use of real-time data, which students can use for analysis, helps students to make connection between their everyday life and the science classroom. They are able to see that their labs are not just using “made up” data but actual numbers from reputable sources. Sites like the US Naval Observatory Astronomical Application Department and Tide-Forecast are examples of excellent resources for a wide variety of data that reinforces what students are learning in their classrooms. As a result, students are able to use real data in their investigations for increased understanding of natural phenomena instead of using generic data sets with labs. For example, students learning about spring and neap tides can use actual tidal data for a specific location and can then compare high and low tide data with moon phase data to see correlations.

Science-based literature can be incorporated into the classroom to help make connections to the real world. Current event articles and websites give students the opportunity to see how the curriculum they are studying relates to their everyday life. Literature can also be integrated through the use of nonfiction texts. Many of these books are detailed with facts that are directly related to the students’ curriculum. For example, a student might be required to read an entire book and share their opinion or they can refer to sections of books by Neil deGrasse Tyson or Mike Brown to further their understanding of these complicated topics about the solar system.

This is a really exciting time to be a science teacher. I am looking forward to see how the science classroom continues to evolve.