

Editorial: Do We Need More Science Education Research?

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It is my pleasure to announce that Dr. Molly Weinburgh has agreed to serve as the next Editor for Periodic Issues. Dr. Weinburgh is the director of the Andrews Institute of Mathematics & Science Education at Texas Christian University and holds the William & Betty Adams Chair of Education. For those of you who know Molly, I am sure you share my excitement. She is an outstanding science educator and researcher, and I know that EJSE will thrive and grow under her leadership. Molly and I will work together as co-editors of the regular (periodic) issues of Volume 16 (2012), and Molly will take the reins for the periodic issues starting with Volume 17 (2013). EJSE will continue to be published by Southwestern University, and I will continue to serve as Journal Manager and Editor for Special Issue and Projects. I am delighted to pass on these responsibilities to Molly as I take on some additional administrative responsibilities in my department. I am also pleased to be able to stay involved in EJSE and look forward to working on several special issues in the coming years. Please join me in welcoming Dr. Weinburgh as our new Editor.

I have observed my own children, in the company of talented and caring teachers, suffer through state-mandated science content (and accountability measures) that left them with a less than enthusiastic attitude toward science and science class. During the more cynical of my reflective moments, I am capable of questioning the value of science education research. “We know so much about how to do a better job teaching science; perhaps those resources should be used to push for needed change, rather than conduct another study,” are thoughts that I allow myself to flirt with. Dewey’s, *The Child and the Curriculum*, written over 100 years ago, makes the case that the teacher serves a vital role in mediating the curriculum with children’s lives. We have known this for so long, and so many studies document the importance of this notion. While I believe that Dewey’s words will never lose their relevance, the world that children experience is a moving target. So, in my more rational moments I argue that we must continue to strive to understand what science means to students in their world/context, just as we need to continue to explore how our current pre-service science teachers think about school and science.

I recently asked the same question I asked countless times before of students in my elementary science methods class about the purpose of the tentacles of the snails the students were examining. Rather than the discussion and debate I anticipated, I received a single authoritative response read from the web without anyone feeling the need to discuss it. Is this appropriate inquiry? Should I allow students to use the internet during

discussions? I have been tempted to say “no laptops.” But just yesterday, my teenage daughter was warning her friends not to look at the sun during the solar eclipse. She shared that rather than just saying because “my dad said so” as she couldn’t remember my explanation, she “Googled” it and gave a more credible (in her and her friends’ opinions) argument to avoid looking directly at the Sun. Perhaps I need to change my question about snails—to promote discussion—as they Google snail tentacles.

So with this trivial example I argue that there are many reasons for continuing science education and science teacher education research. From building on theory, to understanding social cultural contexts, to responding to the “wisdom” of state curriculum and assessment committees, to addressing local and global issues--we need to continue to research and publish. I believe that open access journals such as EJSE serve a vital role to share research with our world-wide colleagues in science education.

This issue of EJSE continues the tradition of presenting research for an international audience by authors from around the globe. We have authors from the United States, England, Turkey, and Jordan contributing to this issue. Two manuscripts, one by Ahamad Qablan, Sherry Southerland, and Yavuz Saka, and one by Mary Elizabeth Holden, Judy Groulx, Mark A. Bloom, and Molly H. Weinburgh present studies related to the pressing need to sustain and protect our natural resources. Issues explored in these include how pedagogical beliefs can impact teaching of value-laden topics and professional development to support teachers’ use of outdoor space. Ron Wagler explores the how field placements can impact preservice science teachers’ efficacy and the need for support during those placements. In our brave new world of accountability, Ji-Eun Lee and Kyoung-Tae Kim report on a very interesting study to understand the criteria preservice and inservice teachers use to evaluate questions from standardized assessments. Kirk Dorion reports on a study that documents students’ anthropomorphic explanations and how that relates to their level of understanding. It provides interesting insight into the potential value of understanding the role of these explanations. And Kyle R. Gray, Katharine D. Owens, David N. Steer, David A. McConnell, and Catharine C. Knight report on their study showing benefits from allowing students to manipulate physical models in groups during a large undergraduate Earth Science course.

These studies provide a insights into pedagogical practices to enhance learning and professional development in the context of current political and social issues as well as challenging untested assumptions. It is my pleasure to have a small part in sharing these with the science education community and they exemplify the value of thoughtful research in science education/science teacher education.