



“Permission to Wonder”: Incorporating Beauty and Aesthetics in the Pre-Service Science Education Classroom

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Abstract:

What happens to pre-service teachers' understanding of science education when they are given the opportunity to explore the wonder and beauty of the natural world? This research explores how a class project titled “Beauty and Aesthetics in Science” (Blades, 2014; 2015) impacts students' understanding of science curriculum, teaching and learning. Drawing on a hermeneutic (interpretive) framework, the primary research question is: How can pre-service students experience science as a tentative, creative space amidst the content focused curriculum they often experienced in science classes? The assignment asked students to choose something in nature that they were curious about, then to research the science behind the topic and to maintain a journal that recorded their findings and their emotional response to their experience. The students were then asked to prepare an aesthetic expression of their discovery and share their creation with the class in a sharing circle. Results from interviews and analysis of student work showed that some students experienced initial frustration with the open-endedness of the assignment, but once they delved into their topic, they loved the opportunity to creatively pursue their interests. Students realized the complexity of their topic and how their initial question often led to other questions. Many shared how this assignment created a much deeper emotional connection to their topic. Students reported that being given “permission to wonder”

within a formal education setting was a foreign experience in their own schooling. Findings also demonstrated that students could articulate a better understanding of the indeterminate and complex nature of science and science education.

Keywords: science education; pre-service teachers; aesthetics; nature; curriculum; pedagogy; wonder

References

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Biographical Note

Sharon Pelech is an Associate Professor in Education at the University of Lethbridge. Her research interests include science education, place-conscious pedagogy, eco-pedagogy and hermeneutics. Sharon teaches undergraduate and graduate courses in curriculum studies and science education. Previously, Sharon taught science in the Northwest Territories and in both rural and urban locations in Alberta.