

Glaciers and blueberries: development and analysis of a field-based earth science workshop designed for Nova Scotia teachers

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Glaciers and Blueberries was the title for a field-based earth science workshop conducted in partnership with the Fundy Geological Museum in May and October 2018 for grade 4 and 7 teachers within the Chignecto Family of Schools catchment area. The development and analysis of this workshop is the basis of a thesis for a MA in Environmental Education and Communication at Royal Roads University. The teachers' workshop was developed with an inquiry-based approach intended to provide insight into their views and experience of field-based learning, while meeting Nova Scotia, grade-specific curricula requirements. Quantitative and qualitative data consisted of questionnaires completed by an expert panel of 10 geoscientists and five teachers who participated in two separate workshops, as well as an analysis of the workbooks completed by the teachers. The field setting was a glacial environment situated along the Parrsboro River valley. Field trip activities included identifying rock types of pebble samples collected from a glaciofluvial terrace and a kame field, conducting an erosion experiment, and drawing sketches of four different glacial landscapes. The teachers' pre- and post-field trip questions showed an increase in their confidence and comfort with conducting a field trip. Overall, the expert panel responses ranged from neutral to strongly agreed and the teachers' ranged from agreed to strongly agreed to the same thirteen quantitative questions. There were slightly lower agreement levels from both groups to two curriculum-related questions. Expert panel results from five open-ended questions identified eleven common keywords, most related to logistics, field trip activities, and knowledge. Teachers responses referred mostly to logistics and activities. Analysis of the workbooks completed by the teachers demonstrated there is a lack of knowledge in rock identification and erosion processes. Despite adding a preteaching session, the teachers had difficulty distinguishing rock textures and consequently identifying rock types. The low teacher participation in the workshop can be attributed to several factors, some which are unavoidable. There remains much work in the future in recruiting teachers, improving the quality of professional development of the workshop, and persevering in this endeavour.