Generating conversations on geoethical education through arts-integrated research

Sandra Johnstone
Lakehead University, Faculty of Education, Canada (johnstones@lakeheadu.ca)

The applications of geoscience knowledge to complex interdisciplinary socioenvironmental challenges, including climate change and sustainability, are broadly acknowledged. The ways we educate geoscience professionals to make ethical decisions in how geological knowledge is applied to these existential challenges can have profound impacts on the Earth system. Proponents of improving ethical applications of geoscience knowledge and ethical decision-making for geoscientists have identified post-secondary educational settings as essential sites of exposure to geoethical thinking. However, discussions of geoethical pedagogy may not address the ways geoscience knowledge production continues to further exacerbate these problems. Post-secondary geoscience educators, with little ethical or interdisciplinary training themselves, may be ill-equipped to navigate the potentially uncomfortable norm-challenging classroom conversations that can arise.

This research applies arts-integrated methodologies to analyze events from my professional roles as a geologist and reflections from my current position as a post-secondary geoscience educator, working in a Canadian context. Results of this work offered counter-perspectives to some of the normalized narratives about professional roles of geoscientists, especially: 1) Geoscientists as environmental stewards, 2) Geoscientists as providers of raw materials essential to society, and 3) Geoscientists on a journey of scientific discovery. Questioning these stories proved to be uncomfortable, opening conversations in which both students and educators may feel implicated in ongoing harms. Proposals to improve geoethical education for post-secondary geoscience students may need to better account for the challenging experiences that arise for both students and teachers as difficult knowledge is engaged in the classroom.

Here, visual art is used as a tool to bring together perspectives across dissonant knowledge paradigms, and in the process to open up new questions about geoethical education. Though arts-integration is common in educational research, this methodology remains extremely rare for research focused on post-secondary technoscientific training. I contend that this novel application offers the opportunity to open up different conversations about both ethical applications of geoscience knowledge and the challenges of geoethical training.