‘NOT EVERYTHING IS WONDERFUL’: TEACHING MATHEMATICS FOR SOCIAL JUSTICE RECONCILIATION

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THEME:

Innovative STEM pedagogy and curriculum.

BACKGROUND AND AIMS

215 unmarked children’s graves confirmed to the world in 2021 what Tk’emlúps te Secwépemc First Nation, in what is now Canada, already knew. The former Indian Residential School, built by the Canadian Government to re-educate Indigenous children by severing them from their cultures, families, land, and language, marks the devastating effects of colonial logics. Now educators are developing age-appropriate curriculum across multiple grades and subject areas, including the M(athematics) in STEM, to redress the legacy of Indian residential schools and advance the work of reconciliation. This is a social justice endeavour, one that questions social privilege and power. Yet, there are few examples of research-based curriculum and pedagogy in mathematics education that examines teaching math for social justice to help students learn to use mathematics as a tool for reconciliation.

METHODOLOGY

This participatory action research highlights our experience with a Grade 5-6 teacher and their class. We co-created and co-taught mathematics-for-social-justice lessons focused on the injustices and impacts of Indian residential schools and stolen land, and on actions toward reconciliation. All participants were non-Indigenous.

We analysed data from 8h of transcribed audio-recorded pre- and post-lesson meetings, 2 of 8 co-constructed lessons, student work samples and reflections, and a post-unit interview with 7 students. The Intergenerational Mapping lesson focused on constructing a generation ancestral map to depict the flow of knowledge across generations and the impact residential schools had on 7-generations. The Stolen Land lesson compared land area to explore the consequences of forced displacement of Indigenous peoples to land reservations.

RESULTS AND CONCLUSIONS

Our findings indicate that elementary school lessons focused on using mathematics to deepen understanding of the effects of Indian Residential schools can be a context for teaching mathematics through social justice. One key finding points to how mathematics can support elementary students to deepen their understandings of historical wrongs in the context of Indigenous education. For example, students commented on how their exploration of exponential growth of ancestral maps highlighted how the impact of residential schools extended beyond direct parental lineages. A second finding highlights how mathematics can prompt students to act. For example, students’ emerging awareness of injustices led them to educating their parents around these issues and possible acts of reconciliation, including strategies for learning more, that could be approached as a family. This study highlights the potential of contextualised mathematics lessons through social justice for Indigenous and non-Indigenous reconciliation.

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