

CULTURALLY RESPONSIVE MATHEMATICS EDUCATION DECOLONIZING SERVICE-LEARNING ANTI-OPPRESSIVE EDUCATION

Cynthia Nicol, Jo-Anne Archibald and Jeff Baker ascribing Aboriginal students' over-representation in special education classes and low-track mathematics courses to the "doubt" schools have installed in such students.¹ Noting that culturally responsive education² is often associated with multicultural education Nicol, Archibald and Baker imply that it could be helpful to Aboriginal students given its emphasis on local knowledge, culture, and language.³ They note that "responsive" derives from the Latin *respondere* meaning to "respond, answer to, promise in return" and stems from *re* meaning "back" and *spondere* "to pledge," from which they conclude that culturally responsive education implies that "reciprocal relationship" structures any educational community.⁴

From this conclusion they raise two questions: 1) How can culturally responsive education be practiced? and 2) How can culturally responsive mathematics teachers be supported?⁵ To answer these, Nicol, Archibald and Baker drew upon data collected as part of a multi-year project investigating culturally responsive mathematics education in collaboration with a small rural school district,⁶ the primary participants comprised of five teachers, the district principal of Aboriginal education, and a community member who was the curator of the local museum.⁷ Among the elements of culturally responsive mathematics education that this group identified were: (1) grounded in place, (2) connected to cultural stories, (3) focused on relationships, (4) inquiry-based, and (5) requiring personal and collective agency.⁸

Relationships - not only among teachers and students but also with members of the community as well - were emphasized by both Aboriginal and non-Aboriginal teachers.⁹ Nicol, Archibald and Baker note that "inquiry" seemed the most suitable strategy to avoid the trivialization of "culture" and to take seriously the "issues and lives of students and community members."¹⁰ For this group, then, "culturally responsive education represented a pledge or commitment of teachers to develop relationships with students that included mathematics."¹¹

By asking pre-service teachers to take up service-learning in First Nations, Métis, and Inuit communities, Yvonne Poitras Pratt and Patricia J. Danyluk assert that they are "deepening teacher effectiveness and intellectual capacity through praxis, thereby disrupting the current educational status quo with a reversal of perspective," thereby demonstrating the potential for this type of critical service-learning to be seen as reconciliatory pedagogy."¹²

More than "volunteering," such service-learning includes preparation, action,

reflection, demonstration, and, above all, mutuality among participants, including the “community.”¹³

Such service-learning experience can contribute to a person’s “intercultural competence,” provided the experience contain “careful and critical reflection.”¹⁴ There are risks, they acknowledge, among them “weariness and resignation, cynicism, arrogance, anger and bitterness, despair, and even depression,” accentuated by the realization that “change” resides “outside their individual scope of influence.”¹⁵ Despite these risks, Poitras Pratt and Danyluk insist that “critical service-learning can also invoke transformative learning if and when participants encounter a disorienting dilemma that prompts them to question their previously held assumptions and perspectives,” a “state of discomfort, characterized by doubts and frustrations, along with an overwhelming need to regain a sense of harmony, is termed cognitive dissonance.”¹⁶

To work with Aboriginal communities, Poitras Pratt and Danyluk point out, “(re)establishing trust” is prerequisite to “successful engagement.”¹⁷ They suggest that a decolonizing service-learning program challenges pre-service teachers to “critically examine their own positioning in relation to the community being served.”¹⁸ Poitras Pratt and Danyluk posed three questions to program participants (to which they were to respond each week): 1) in what activities were you involved, 2) what was your greatest challenge, and 3) what was your greatest learning experience? Accompany this assignment was monthly focus groups, providing opportunities for “participants to share experiences with one another and debrief with the researchers.”¹⁹

Poitras Pratt and Danyluk noticed that teacher candidates who spent time regularly “in the community experienced a shift toward examining their own positionality with several indicating transformative learning as a result,” including a “deeper awareness of their own privileged positioning.”²⁰ They conclude that “it is the presence of cognitive dissonance that signals the onset of transformational learning within this particular service-learning program,” suggesting to them that social change comes not from the service itself but from the learning that occurs within the individual service provider.”²¹ The labour of reconciliation requires, they continue, that “we must move learning beyond the classroom to include meaningful community-based experiences” where “pre-service teachers witness the implications of a colonial past and are prompted to examine the privileges of their own positioning within Canadian society.”²²

Focused on the Canadian prairies, Carol Schick and Vera St. Denis argue that anti-oppressive curriculum²³ must examine the “production of racial identifications, including the construction of whiteness,” as without critical race analysis, they worry, the “celebration of diversity” has “every possibility of reinforcing relations of domination.”²⁴ Such an anti-oppressive curriculum can characterize teacher preparation to “counter commonplace tropes or mythologies that are part of a Canadian narrative,” including the “myth that the effects of racism can be overcome

through assimilation or meritorious achievement.”²⁵ Schick and St. Denis point out that “public education largely remains reflective of white, Western, or Eurocentric interests.”²⁶ Curriculum is one channel through which “white privilege” and “difference” are “normalized,”²⁷ but, they acknowledge, installing an anti-racist curriculum is improbable,²⁸ as the “basis” for “white Canadian identity” is, they contend, an “abjected image of Aboriginal people” that entitle “white settlers ... to own the land.”²⁹

“Although the genocidal history of First Nations peoples in Canada is almost completely omitted from school curricula,” Schick and St. Denis allege, it is an “underlying feature of anti-racist teaching,”³⁰ making clear that racism is not “something that took place primarily in the past.”³¹ Especially on the prairies, Schick and St. Denis continue, “racial difference” disappears into “cultural difference” which, they assert, functions to ascribe educational failure to the “other” by obscuring “how dominant identities are implicated in the production of ‘difference’.”³² Assumptions of racial superiority enable “white” education students to imagine they can learn to be “helpers,”³³ that is when they don’t resist anti-racist teaching theories altogether.³⁴ Indeed, Schick and St. Denis assert, “a certain raceless Canadian identity as the norm,” relegating knowledge about Aboriginal peoples as reinforcing “Othering[,] whereby the customs and people themselves are taken up as exotic, quaint, or problematic, as something that happened in the past, as part of the nation's celebrated history.”³⁵

COMMENTARY

“Grounded in place, connected to cultural stories, focused on relationships, inquiry-based, and requiring personal and collective agency,” Culturally responsive mathematics education connects with the potential service-learning offers pre-service teachers, namely a “deepening teacher effectiveness and intellectual capacity through praxis ... [a] reconciliatory pedagogy” in service, it would seem, to anti-oppressive curriculum, here focused on race but equally applicable (one would think) to culture. I worry that being “culturally responsive” risks charges of “cultural appropriation” (see research brief #13, endnote 7), as anti-oppressive curriculum – whether focused on race or culture (themselves concepts with porous boundaries) – risks reifying difference as only oppositional.

REFERENCES

- Gay, Geneva. 2010. *Culturally Responsive Teaching*. (2nd edition). New York: Teachers College Press.
- Kumashiro, Kevin. 2004. *Against Common Sense: Teaching and Learning toward Social Justice*. New York: RoutledgeFalmer.
- Nicol, Cynthia, Archibald, Jo-ann, and Baker, Jeff. 2013. Designing a Model of Culturally Responsive Mathematics Education: Place, Relationships and Storywork. *Math Education Research Journal*, 25, 73-89.
- Poitras Pratt, Yvonne and Danyluk, Patricia J. 2017. Learning What Schooling Left Out: Making an Indigenous Case for Critical Service-Learning and Reconciliatory Pedagogy within Teacher Education. *Canadian Journal of Education*, 40 (1), 1-29.
- Schick, Carol and St. Denis, Verna. 2005. Troubling National Discourses in Anti-racist Curricular Planning. *Canadian Journal of Education*, 28 (3), 295-317.

ENDNOTES

-
- ¹ Nicol, Archibald and Baker 2013, 73.
- ² Associated with Geneva Gay: see Gay 2010; research brief #15.
- ³ Nicol, Archibald and Baker 2013, 74-75.
- ⁴ Nicol, Archibald and Baker 2013, 75.
- ⁵ Nicol, Archibald and Baker 2013, 76.
- ⁶ Nicol, Archibald and Baker 2013, 76.
- ⁷ Nicol, Archibald and Baker 2013, 78.
- ⁸ Nicol, Archibald and Baker 2013, 82.
- ⁹ Nicol, Archibald and Baker 2013, 83.
- ¹⁰ Nicol, Archibald and Baker 2013, 84.
- ¹¹ Nicol, Archibald and Baker 2013, 84.
- ¹² Poitras Pratt and Danyluk 2017, 4.
- ¹³ Poitras Pratt and Danyluk 2017, 5.
- ¹⁴ Poitras Pratt and Danyluk 2017, 5.
- ¹⁵ Poitras Pratt and Danyluk 2017, 5.
- ¹⁶ Poitras Pratt and Danyluk 2017, 6. On its face, cognitive dissonance seems insufficient a characterization, as, clearly, affect is involved.
- ¹⁷ Poitras Pratt and Danyluk 2017, 8.

-
- ¹⁸ Poitras Pratt and Danyluk 2017, 9.
- ¹⁹ Poitras Pratt and Danyluk 2017, 13.
- ²⁰ Poitras Pratt and Danyluk 2017, 19.
- ²¹ Poitras Pratt and Danyluk 2017, 19.
- ²² Poitras Pratt and Danyluk 2017, 21.
- ²³ Associated with Kevin Kumashiro: see Kumashiro 2004.
- ²⁴ Schick and St. Denis 2005, 295.
- ²⁵ Schick and St. Denis 2005, 296.
- ²⁶ Schick and St. Denis 2005, 298.
- ²⁷ Schick and St. Denis 2005, 298.
- ²⁸ Schick and St. Denis 2005, 298-299.
- ²⁹ Schick and St. Denis 2005, 302.
- ³⁰ Schick and St. Denis 2005, 303.
- ³¹ Schick and St. Denis 2005, 304.
- ³² Schick and St. Denis 2005, 305-306.
- ³³ Schick and St. Denis 2005, 309.
- ³⁴ Schick and St. Denis 2005, 309.
- ³⁵ Schick and St. Denis 2005, 313.