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Research in a Nutshell

A Message from the Editorial Team

Looking across the topics in this issue of *Research in a Nutshell* (*RiaN*), reflexivity—the examination of our thinking and actions—is the theme that rings clear. Too often decisions about teaching and learning have been made without examination of the matters we take for granted. The research presented in this issue of *RiaN* calls us to reflect on how early childhood math educators and teachers are supported in their practice, how fairness in classroom assessment is conceptualized, how teaching and learning are linked to place, and how communication is central to effective classrooms. Evidence-informed direction for these matters is provided by four graduate student researchers from the Queen's Faculty of Education: Andrew Coombs, Amir Rasooli, Rebecca Stroud Stasel, and Cindy Xing.

Sincerely, Clarissa de Leon, Stephen MacGregor, and Chris Suppa (RiaN@queensu.ca)

What does math education look like for young students?

Andrew Coombs, PhD Student

Why is this important?

- Proficiency in early math is a strong predictor of students' academic success in high school and higher education.
- Given that math knowledge is cumulative, it is critical for young children to develop strong early number competence (i.e., achievement gaps in math widen throughout schooling).

What does this research uncover?

- There are four areas that need to be addressed to improve the quality of early math education:
  - Training for educators in early math education.
  - Help educators understand what math concepts young children should learn and how they should be taught (e.g., learning trajectories).
  - Make educators aware that not all forms of play support improved math achievement.
  - Teachers and early childhood educators require joint professional development about inquiry- and play-based learning to support a team-teaching approach to kindergarten.

Why does this matter?

- Supporting educators in the areas addressed above is an effective, efficient, and realistic method for improving students' mathematical understandings and future school success.

Youmans, A., Coombs, A. J., & Colgan, L. (2018). Early childhood educators' and teachers' early math education knowledge, beliefs, and pedagogy. *Canadian Journal of Education, 41*(4), 1079-1104. Retrieved from http://cje-rce.ca

What does fairness look like in student-based assessments?

Amir Rasooli, PhD Student

Why is this important?

- Fairness is at the heart of morality.
- Locally, students' perceptions of fairness impact their learning, motivation, and well-being while their unfairness perceptions affect their hostility and distrust as well as tendency to cheat and truancy from school.
- Generally, students' perceptions of fairness impact their justice worldview and civic life within and beyond school.

What does this research uncover?

- Students perceive fairness in relation to four classroom elements: teaching, assessment, classroom interactions, and learning.
- Across these four classroom elements, students apply principles such as consistency; equity; equality; transparency; sex-, religious-, and ethnic-bias; voice; and respect to perceive fairness.

Why does this matter?

- If students perceive a teacher as unfair, it does not seem that academic learning or character education happens, which opposes the reason many teachers become teachers.

Rasooli, A., Zandi, H., & DeLuca, C. (2018). Re-conceptualizing classroom assessment fairness: A systematic meta-ethnography of assessment literature and beyond. *Studies in Educational Evaluation, 56*, 164-181. doi:10.1016/j.stueduc.2017.12.008

What happens to teachers and students when they venture beyond their comfort zones?

Rebecca Stroud Stasel, PhD Candidate

Why is this important?

- We associate our identities with membership to a variety of things that become part of us. When we cross borders, our identities are challenged. This is often uncomfortable, but can also present learning and growth opportunities.

What does this research uncover?

- This book chapter unpacks the growth opportunities encountered by border crossers. Border crossers move beyond the limits that their identity membership expects of them.
- An artist from India trained students from two distinctly contrasting high schools in Indian street theatre. Students adapted their learning to their cultural environments.
- While the Indian art form itself presented challenges, the two high school student groups also had to come to terms with their many sociocultural differences. This study uncovered how their learning experiences were laden with challenges, stressors, and rich growth opportunities.

Why does this matter?

- In Canada, we are broaching Reconciliation. Disrupting our comfort zones may open our minds to important learning.
- We must face what a society of intertwining cultures means as intersections between different cultural elements become more frequent.

Stroud Stasel, R. (2018). Growing community one play at a time: How an experimental theatre project led to flourishing. In S. Cherkowski & K. D. Walker (Eds.), *Perspectives on Flourishing in Schools* (pp. 183-197). Lanham, MD: Lexington Books.

What are the cultural adaptation stories of Chinese ESL students in Canadian classrooms?

Deyu (Cindy) Xing, MEd

Why is this important?

- The proportion of Chinese English as a Second Language (ESL) students in Canada is sharply increasing.
- ESL students encounter significant challenges in academic tasks related to group work, oral presentations, and social integration due to their language barriers.

What does this research uncover?

- The cultural adaptation stories of Chinese ESL students with limited spoken English were permeated with emotional pain, isolation, helplessness, and regret.
- Oral communication difficulties severely impacted their psychological well-being during their time studying in Canada.

Why does this matter?

- Educators should be aware of the oral communication challenges which hinder ESL students' ability to create truly inclusive and equitable classrooms.
- Support programs need to be designed to better accommodate the rising number of ESL students.

Xing, D., & Bolden, B. (2018). Insights into the challenges experienced by Chinese ESL learners. *Contact-TESL Ontario, 4*(3), 36-43. Retrieved from http://contact.teslontario.org/

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