MERGA 44: Quick Reads
Mathematics Education Research Group of Australasia
MERGA 44 Mathematical Confluences and Journeys
Launceston, 3-7 July 2022

The Practice of Mathematics Education

Peter Grootenboer
Griffith Institute for Educational Research
Griffith University
<p.grootenboer@griffith.edu.au>

Over the years mathematics education has been examined through a range of theoretical perspectives, and these have predominately been epistemological in nature. However, despite this rich history of research, it still seems some perennial issues with mathematics education remain, with many learners floundering and large numbers disliking mathematics or viewing it as irrelevant. Therefore, here a different perspective on mathematics education is presented – an ontological practice approach, which complements existing epistemological understandings. Considering mathematics education as practice foregrounds two key factors – the 'site ontological' nature of mathematics learning and teaching that highlights its 'happeningness', and the sociality of mathematics education.

There are two reasons for considering a practice approach to understanding mathematics education. First, mathematics is a human activity that is coherent and complex, and socially established, and as such it can be understood as a practice. Relatedly, mathematics education is consequently concerned with enabling learners to *practice* mathematics. In other words, the goal of mathematics education is to enable students to continue on in mathematical practices – becoming more engaged and proficient in the community of mathematical practice. Second a practice approach to mathematics could offer insights into the perennial and intractable affective issues of mathematics. This is because it is a holistic view including cognitive, affective and conative dimensions. In this sense, emotions, actions, attitudes, and values are not separate aspects associated with learning mathematics – they are an integral part of learning mathematics.

This has implications for mathematics education as it is undertaken in schools and other formal educational institutions. First, while mathematics itself is a practice, and comprised of practices, school mathematics curricula tend to be dominated by discipline knowledge that is required to be taught and learned. So, while mathematical knowledge and skills are important, alone they are insufficient and inadequate, and a dangerous simplification of mathematics. Second, while mathematics and mathematics learning are practices that are site-based, schools and educational systems see learning as 'abstract' and removed from the relevant "communities of practice", based on the assumption that that what is learned will be readily transferred to other practice contexts and settings as required. Clearly this is not the case, and school mathematics is seen as having little relevance to life outside the classroom. Therefore, if mathematics education practices are to be developed, then there needs to be an allied commitment to developing the associated practice architectures that enable and constrain them. Perhaps then, a practice understanding could help ensure that mathematics *education* is possible rather than mere mathematics *schooling*.