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Editors' work and an introduction to articles in this issue

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Editors' work and an introduction to articles in this issue

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This 29th issue of the *Waikato Journal of Educational Research* includes five articles on the teaching and learning of mathematics and four articles that focus on the challenges and opportunities offered by technology, environmental matters, cultural responsiveness and school governance. The issue concludes with a book review.

Politicians, policy makers, curriculum and assessment developers internationally have focused on the need and challenge of developing student, and consequently citizen, literacy and numeracy. The importance attributed to this is reflected in two international assessment agendas with a widely acknowledged influence on national agendas: TIMSS and PISA. Overall, these assessment regimes indicate that a significant number of students are underperforming in mathematics, with students from some groups overrepresented in this space. Where, how and with whose involvement this situation might be addressed has posed an ongoing challenge. In this issue Safura Meeran addresses the challenge of student achievement in relation to mathematics education for all in South Africa. While South African curriculum policies advocate learner-centred strategies, she identified that Intermediate Phase (Grades 4–6) teachers tend to interpret the press for learner-centred teaching approaches in ways that align with their current practice. Meeran's findings point to the need for professional development about learner-centred strategies and the formation of collaborative networks as a way for teachers to develop culturally responsive methods that can begin to address the needs of the multilingual and multicultural learners to be found in their classes.

The article by Amanda Gardner takes a deep dive into the teaching of fractions. Gardner's action research study with two teachers in Aotearoa New Zealand focused on what strategies they could employ as part of a shift from teaching and learning as procedural application to teaching and learning as focused on conceptual understanding. Language development, and more specifically the significance of shared mathematical language and teacher understanding of the role vocabulary plays in conveying meaning and grounding understanding emerged as a key finding.

With the article by Julius Caesar Hortelano and Maricar Prunte, we move to consider mathematics teaching in the Philippines. Hortelano and Prunte employed a questionnaire to understand teacher practice in relation to situated learning theory (SLT) (Herrington & Oliver, 1995) and the Framework for Philippine Mathematics Teacher Education. They found that despite low familiarity with SLT, Framework questionnaire responses indicated most teachers implement aspects of SLT "two to four times a week". Teachers' SLT knowledge correlated with the implementation of SLT; teaching level, years of experience, and knowledge of the Framework had no significant correlation with SLT implementation. The authors recommend teacher professional development and resourcing in relation to the pedagogical approach teachers were being expected to implement.



Rustam Simamora and colleagues explored student teacher understanding of what constituted inspirational teaching of mathematics. Their interview data from 20 student teachers revealed that inspiring mathematics teacher educators embody a blend of personal and professional qualities including knowledge, graciousness and enthusiasm and the capacity to provide clear, insightful explanations, balance challenge and support, and foster independent learning and creative mathematical thinking. Participants considered these attributes fostered their academic development and influenced their beliefs, attitudes, and aspirations as future educators. Simamora and colleagues propose these findings highlight the need for teacher education programmes to cultivate such qualities and practices in mathematical teacher educators.

The article by Linda Clarke and Judith Mills explores student teachers' knowledge of number as evidenced through their solutions to word problems. Their study is a comparative study to that of Young-Loveridge et al. in 2012. They identified there was very little difference in student teacher mathematical understanding across the 10 years, with most of student teachers using algorithmic procedures and many holding misconceptions. Similarly, there was little difference in student teacher beliefs and attitudes towards maths. Clarke and Mills also asked student teachers to evaluate their confidence in the accuracy of their answers. Responses indicated limited accuracy in judging the reasonableness of answers. Clarke and Mills propose findings have implications for entry requirements to ITE programmes.

The next four articles each focus on a topic that is of current interest in education policy and practice. Julie Cullen focuses on the implications of increasing use of digital technologies on children and adolescents in Aotearoa New Zealand given they are among the highest users of digital technologies in the world. She discusses the opportunities and risks to educational outcomes and health/well-being that come with the use of digital devices. Her literature review indicated that the impact of digital technologies on learning outcomes is not neutral. Conditions and context of use including task selection, length of use, and whether device use is teacher-led or independent are influential. Her paper also points out potential negative health impacts associated with frequent and extended use of digital devices. Cullen advocates the development of guidelines for the use of digital technologies in New Zealand schools.

The article by Rajesh Ram addresses the need to protect New Zealand's agricultural legacy through education. He points out that while the New Zealand economy has a strong reliance on the export of primary produce, it appears that very little time and attention is given to education in relation to protecting this industry appears, including in schools. Ram scopes current approaches to maintaining biosecurity, arguing maintaining biosecurity not only prevents pests and diseases from entering New Zealand but also works to eradicate pests and diseases already present, which contributes to the conservation of endemic flora and fauna. Ram makes a case for school-based education as part of advancing the proposition that biosecurity relies on and is a responsibility of all New Zealand citizens.

Leonardo Jr. Cabauatan examines the integration of Ifugao indigenous knowledge and practices into the teaching Philippine Studies at a university in the Philippines via interviews. Findings were that behavioural and attitudinal teaching strategies predominated, with project-based teaching strategies used to a lesser extent. The challenges lecturers faced related to their instructional skills, classroom management, and attitudes towards cultural differences. Based on findings they proposed that collaboration between and among teachers, educational leaders and community stakeholders was needed to advance teaching and learning in the University.

Jennifer Tatebe explores rural Board of Trustee experiences of a range of social, educational, and economic challenges during Covid-19 via focus group discussions. The paper is part of a larger study about the impact of urbanisation on rural schools. They identify the challenge of school governance during times of crises and an increasing need for student pastoral care which they attribute to an increase in rural educational disparities, where this includes the digital divide and the ongoing challenge of maintaining a rural identity for students and the local school communities they serve. Findings contribute knowledge on how to adapt to educational crises in a post-pandemic landscape from a rural perspective.

The final article in this issue is a review by Peter Stanley of the book *The aristocracy of talent: How meritocracy made the modern world* (Wooldridge, 2023).