

Editorial

He moana pukepuke e ekengia e te waka
A choppy sea can be navigated

The refreshed Mathematics and Statistics learning area of Te Mātaiaho invites kaiako to navigate new opportunities, challenges, and ways of thinking about teaching and learning. Finding the route between these waypoints may not always be straightforward, but with knowledge, experience, and collective wisdom, we can navigate. The articles in this special issue, *Te Kaha o te Pāngarau: The Power of Mathematics*, bring together diverse perspectives to support educators as they respond to change and reflect on what effective mathematics and statistics teaching can look like now.

When we developed the call for this special issue, we invited researchers, kaiako, and school leaders to respond to the question: “How do we teach maths now?” We were seeking contributions that explored the pedagogical, content, and assessment shifts within Te Mātaiaho, while recognising that effective mathematics teaching also depends on equitable opportunities, meaningful engagement, and positive relationships with mathematics.

The response reflects the richness and diversity of mathematics education research in Aotearoa New Zealand. Rather than presenting a single vision of effective teaching, the articles offer complementary perspectives on curriculum implementation, learner success, and kaiako professional judgement. Collectively, they highlight that effective mathematics teaching is evidence informed, and responsive to learners and their communities.

Equity through valuing ākongā

Four articles remind us that equity is not achieved by treating every ākongā the same. Rather, equity begins by recognising and valuing the diverse identities, languages, knowledge systems, experiences, and strengths that ākongā bring to mathematics, and responding in ways that enable every learner to participate meaningfully.

Pania Te Maro challenges us to reconsider the relationship between mātauranga Māori and

mathematics. She argues that rather than using mātauranga Māori simply as a context for teaching Western mathematics, teaching and learning should uphold the integrity of both knowledge systems. Through the example of tukutuku panels, Pania shows what centring the world of mokopuna can look like in educational settings.

Listening carefully to learners is another powerful pathway towards equitable mathematics teaching. Fiona Ell and colleagues foreground the voices of Pacific secondary students, whose reflections offer practical insights into what helps them succeed. Students want teachers who believe in their capability, hold high expectations, explain ideas in multiple ways, make learning relevant, and actively support them to succeed.

Sashi Sharma highlights the importance of recognising the linguistic strengths ākongā bring with them to school. Drawing on research in multilingual probability classrooms, she demonstrates how translanguaging enables students to use their home languages as an important resource for mathematical learning.

Lisa Darragh and team examine inclusive mathematics teaching for disabled and neurodivergent learners. Their work illustrates how careful planning, collaborative teacher inquiry, universal design for learning, and attention to students’ sense of belonging can remove barriers to participation while creating learning environments where all ākongā can meaningfully engage in rich mathematical learning.

Teaching approaches

The refreshed Mathematics and Statistics learning area emphasises the role of explicit teaching with a range of teaching approaches as an important part of the educational process. These approaches relate to “quality” or “effective” teaching practices that have been recognised and developed over many years. Five articles explore a range of teaching approaches that illustrate the key role of teachers as active facilitators.

Raewyn Eden’s article on the potential of co-teaching mathematics is a timely reminder of the value

of collaborative practice in the contemporary mathematics classroom. Working with colleagues to plan, notice, teach, share, and reflect offers powerful support. Furthermore, she notes that co-teaching can start with small adjustments to current teaching practice.

Jo Knox's article explores different types of rich tasks and how they interact with the mathematical processes of investigating, making connections, representing, and explaining and justifying. Central to this exploration is the importance of the teacher's role in co-ordinating tasks to support specific mathematical processes with illustrations and examples of various types of rich tasks.

Megan Clune illustrates the mathematical modelling process, moving between maths problems both in the real world and in the context of the mathematics. Unsurprisingly, the role of the teacher is paramount to provide opportunity and guide students through the stages and subprocesses of the mathematical modelling process.

Robin Gandell and Chloe Davison highlight how mathematical exploration and thinking can be done with movement and the body, and that movement is entwined in mathematical knowing and learning.

Pam Perger draws comparisons between explicit teaching and deliberate acts of teaching, looking at the commonality in presenting new learning in achievable steps, and scaffolding learning through questioning, prompting, modelling, and feedback. She notes that the explicit strategies promoted in the new curriculum are already a part of many teachers' practice.

The power of formative assessment

Formative assessment is central to teaching and learning. It involves noticing, recognising, and responding in the moment to guide learning. Kaiako use a range of assessment practices during lessons to make ākongā mathematical understanding visible, then use this information to adapt their practice and plan purposeful next teaching steps. The remaining two articles in this special issue are connected through their use of intentional formative assessment practices.

Patricia Ong and Nigel Calder explore how young children show mathematical understanding in play-based

contexts through multimodal expression. Their research is very applicable to contexts of ākongā transition to schools and classrooms that practise play-based learning. Their article reinforces the importance of recognising mathematical thinking beyond numbers and symbols to support more equitable mathematics learning. Intentional observation helps kaiako identify mathematical thinking in everyday play.

Rob Proffitt-White discusses a practical routine for surfacing ākongā thinking and supporting kaiako noticing. Regular use of the one question snapshot can strengthen responsive teaching, build professional judgement, and embed formative assessment more effectively in teaching practice.

Together, these articles show that formative assessment is most powerful when kaiako intentionally notice and interpret ākongā thinking in context, then use this evidence to respond in ways that support equitable and meaningful mathematics learning.

Looking ahead

Although the articles in this special issue explore different aspects of mathematics education, they share a common commitment to improving learning opportunities for all ākongā. There is no single answer to the question, "How do we teach maths now?" Instead, this special issue reflects the many ways researchers and practitioners are strengthening mathematics teaching and learning in Aotearoa New Zealand. We hope these articles encourage reflection, generate professional conversations, and provide practical ideas that support kaiako as they continue to navigate the opportunities and challenges of teaching mathematics.

Ngā mihi nui ki ngā kaituhi mō ō koutou whakaaro, ō koutou mātauranga, me ō koutou wawata. Many thanks to the authors for your ideas, knowledge, and aspirations. Through your contributions, we are all better equipped to navigate the opportunities and challenges ahead in mathematics education.

Guest editors

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