



Unlocking Minds: The Pendulum of Mathematics Pedagogy

Catherine Attard

Western Sydney University

c.attard@westernsydney.edu.au

Current debates in mathematics education have generated concern across the research and teaching communities, particularly in Australia and New Zealand. These debates, often fuelled by narrow interpretations of "evidence-based practice", have contributed to policy shifts that privilege highly structured approaches to teaching—most notably explicit instruction—at the expense of pedagogical diversity and responsiveness. In this paper, I explore the implications of this trend using the metaphor of a pendulum to represent the oscillating—and increasingly polarised—nature of mathematics pedagogy.

The metaphorical pendulum swings between dichotomies such as direct instruction (DI) and inquiry-based learning (IBL), mirroring the broader educational discourse. At present, the pendulum appears stuck at one extreme, shaped by policy influences from organisations such as AERO and the CIS, which draw heavily on cognitive science research while largely overlooking the substantial evidence base from mathematics education. The result is a growing disconnect between research, policy, and classroom realities. Teachers are increasingly positioned as technicians rather than professionals, expected to implement rigid lesson structures that diminish their autonomy and capacity to respond to student needs.

Drawing on the legacy of past Clements-Foyster lectures, I argue for the recognition of "essential complementarities" in pedagogy. Rather than viewing instructional approaches as binary opposites, we must acknowledge the complex interplay of methods required to teach mathematics effectively.

This paper also critiques the ways in which policy decisions are shaped by convenience and scalability rather than educational nuance. In an era of teacher shortages, declining student performance, and equity concerns, policymakers have sought simple solutions to complex problems. However, these solutions are often underpinned by outdated research or extrapolations from unrelated fields (e.g., phonics-based literacy reforms). The resulting policies misrepresent engagement, reduce curriculum alignment, and potentially hinder deeper mathematical thinking and understanding.

This paper concludes by advocating for a recalibration of the pedagogical pendulum—one that restores flexibility to teachers, respects the complexity of teaching, and acknowledges that no single method can meet the needs of all learners. The mathematics education research community must work collectively to ensure that high-quality, balanced research becomes central to education policy and classroom practice. As we reflect on MERGA's role and vision, we are reminded that unlocking minds begins with recognising our shared responsibility to influence, challenge, and collaborate in ways that strengthen mathematics education for all.