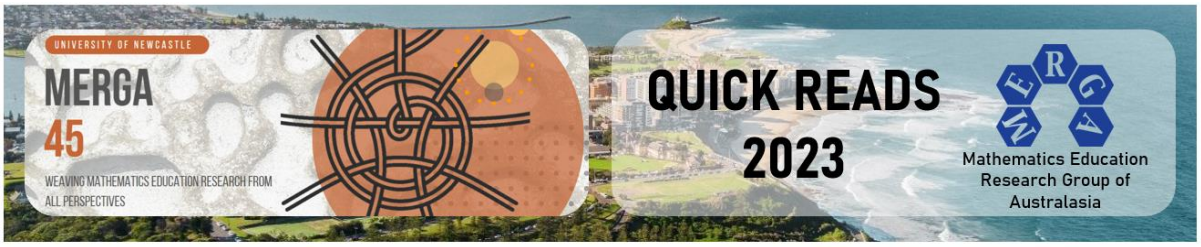

Merging Mathematics Research and Development: Connecting communities in an emerging network of local and national projects

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In the paper I share aspects of the work of my team, over the past twelve years as the incumbent South African Numeracy Chair at Rhodes University in Makhanda, South Africa. This is one of two National Research Foundation Chairs established to merge development with research in the search for sustainable solutions to persistent challenges in primary mathematics education particularly for 'disadvantaged' communities. The funding model stipulated establishing professional development (PD) with a minimum of ten schools, allowing flexibility, and, following rigorous evaluation, up to three five-year terms. This long-term flexible Research and Development (R&D) Chair model enabled a grounded, organically emerging network of research-informed projects with multiple iterations enabling continual strengthening and gradual up-scaling. In the paper I share the PD and emergent projects from inception to date. This included the Mental Starters Assessment Programme (MSAP) developed to address poor number sense and pervasive unit counting for calculating (Graven & Venkat, 2021). MSAP emerged collaboratively from the first term experiences of the two Numeracy Chairs. Multiple iterations of design, implementation, and research, with key partners, enabled gradual upscaling in our second term with national piloting leading to roll-out with the Department of Basic Education (DBE) in our current third term. The paper points to the way in which three key aspects of the Chair funding model: long-term engagement, research *with development*, and flexible 'deliverables', enabled ethical, grounded work that supported the emergence of a powerful network of communities (Graven, 2019). Multiple learning opportunities emerged from this network far exceeding the sum of those available within each individual project or community. The network provided a momentum for learning that grew with time and allowed key stakeholders in mathematics teaching and learning to work together in ways that supported dialogue and mutual collaborative learning. The longitudinal timeline allowed multiple stakeholders to shape the work and allowed the ever-improving and expanding iterations of programmes to support capacity-building across different communities thereby increasing the opportunity for successful scalability and sustainability. Thus, the paper challenges dominant funding models that separate research from development in tightly defined short-term cycles, and rather point to the possibilities within models that enable the development of an ever improving and expanding network of R&D projects, informed by school and community partnerships.

References

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