Chapter 2
Reflections on the MERGA Research Review 2008–2011: Taking Stock

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Abstract This chapter reflects on mathematics education research in Australasia as it was represented in the review immediately preceding the current volume—*Research in Mathematics Education in Australasia 2008–2011*. It is written by the editors of the earlier review at the invitation of the editors of the current review. In recognition of government policy reforms in Australasian countries, the chapter is structured around five of these major reforms: early childhood reform; national curricula; national and international assessment; teacher accreditation; and closing the gap. The chapter looks back at the previous review and forward to prospective mathematics education research through the lenses of these reforms. It considers the implications of the reforms on mathematics education and endeavours to stimulate mathematics education researchers to work on the major challenges created by the reforms. In looking forward to the new review of mathematics education research, the chapter highlights some of the areas of mathematics education research which may prove fruitful to researchers and helpful to individuals, families, communities and societies throughout Australasia.

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1 Introduction

Research in Mathematics Education in Australasia 2012–2015 is the ninth such 4-yearly review undertaken by the Mathematics Education Research Group of Australasia (MERGA). These reviews have become expected and much anticipated aspects of the Australasian and international mathematics education research scene. The timing of publication is linked to the 4-yearly International Congress on Mathematical Education (ICME) at which the launch has become a permanent feature.

In this chapter, the task of the authors, who edited the previous review: *Research in Mathematics Education in Australasia 2008–2011* (Perry, Lowrie, Logan, MacDonald, & Greenlees, 2012), is to reflect on the 4 years following the publication of this review, consider the directions the review foreshadowed and provide an overview of the context for the current review. The chapters in *Research in Mathematics Education in Australasia 2008–2011* (Perry et al., 2012) were grouped into three main sections:

- Contextsfor Mathematics Education
  - Reflections on the MERGA research review 2004–2007
  - The affective domain and mathematics education
  - Equity, diversity, social justice and ethics in mathematics education
  - Indigenous students and the learning of mathematics
  - Supporting exceptional students to thrive mathematically
  - Technology in mathematics education
  - Assessment beyond all: The changing nature of assessment
- Mathematics Learning and Teaching
  - Early childhood mathematics education
  - Powerful pedagogical actions in mathematics education
  - Mathematics curriculum in the schooling years
  - Growth and new directions? Research in tertiary mathematical science education
  - Uncertainty in mathematics education: What to do with statistics?
- Mathematics Teachers
  - The professional education and development of prospective teachers of mathematics
  - Professional knowledge of practising teachers of mathematics.

A final chapter *Taking Stock: From Here to the Future* (Leder, 2012) appraised the other chapters in the review and set some possible directions for future

consideration in mathematics education research in Australasia. It is from this chapter that the subtitle for the present chapter has been borrowed.

For the most part, the chapter titles in *Research in Mathematics Education in Australasia 2008–2011* (Perry et al., 2012) were not significantly different from those in the 2004–2007 MERGA review, suggesting that mathematics education research in Australasia had reached a period of some stability and consolidation. However, there was a stronger emphasis in the later review around the mathematics education of young people "on the margins" and on curriculum and assessment, perhaps suggesting the impact of national curricula that were introduced during the latter review period.

Most of the chapter authors completed their critiques of research with suggestions for possible future directions. Leder (2012) summarised these noting that some were simply for further research in the particular field while others were more specific. For example, Atweh, Vale, and Walshaw (2012) noted "a movement from the disparate agendas such as equity, diversity and inclusion to a more comprehensive and perhaps unifying construct of social justice" (pp. 57–58). In relation to assessment, Lowrie, Greenlees, and Logan (2012) echo the social justice theme in future research by considering "the appropriateness of assessment particularly with minority groups and the extent to which assessment practices consider the needs of all learners" (p. 158). Surprisingly, given the curriculum revolutions in education, particularly in Australia, there was little research undertaken in relation to new curricula and their implementation. Specifically noted as requiring continued emphasis was "mathematics learning and teaching across the prior-to-school and school transition" (MacDonald, Davies, Dockett, & Perry, 2012, p. 186). From the section *Mathematics Teachers,* Leder (2012) noted the need for future investigations on

> … cultural perspectives on teacher knowledge; the impact of politically driven pressures to influence the timing and setting of teacher education programs; the putative link between teacher knowledge of and about mathematics and student learning outcomes; and how, what and when teachers learn from their own experience without interventions from outside sources. (p. 360)

Since 2011, the final year covered by the previous MERGA review, Australia has undergone political turmoil at both the federal and state/territory levels. There have been five changes of Prime Minister and at least eight changes in State Premier or Territory Chief Minister. The Australian government has changed from a progressive and creative Labor party to a more conservative coalition determined to be fiscally responsible but constrained by the bicameral parliament. Whilst, constitutionally, the states and territories are responsible for school education, the federal government, in conjunction with the states and territories, has been successful in introducing sweeping changes in early childhood and school education and has been endeavouring to do the same in higher education, with only marginal success. On the other hand, New Zealand, with its unicameral parliament and the same Prime Minister for the period covered by this review, is more stable in its educational directions. Nonetheless, the social and contextual changes in New Zealand still require education to respond to and lead change. In the remainder of this chapter, we

consider some of the major changes in government policy that have occurred in Australia and New Zealand since 2011 and use these to provide a context for the chapters that follow. In particular, we have structured the chapter around the implications of five major initiatives, knowing that this is a choice of the authors and that other areas could have been included. Two that have been suggested by chapter reviewers, but not discussed in the chapter, are the research policy and accountability environment in both New Zealand and Australia and the introduction of the national disability insurance scheme in Australia. The five areas to be discussed are:

- early childhood reform agenda;
- national curricula;
- national and international assessment;
- teacher accreditation; and
- Closing the Gap.

2 Implications of the Early Childhood Reform Agenda

In the previous MERGA review, it was noted by MacDonald et al. (2012) that during the period 2008–2011 there was unprecedented political interest in early childhood education in Australasia. This interest in the early years came as a result of curricular developments across both Australia and New Zealand. In Australia, the first ever national curriculum framework for early childhood, *Belonging, Being and Becoming: The Early Years Learning Framework for Australia* (EYLF) (Department of Education, Employment and Workplace Relations, 2009) was implemented and its impact was beginning to be seen during the 2011–2015 review period. In the schooling years, Phase 1 of the implementation of the *Australian Curriculum* (Australian Curriculum, Assessment and Reporting Authority, 2013) had begun. In New Zealand, a review of the early childhood curriculum framework, *Te Whāriki* (Ministry of Education, 1996), had been recommended.

In the years since the previous review, the early childhood education landscape—particularly in Australia—continued to change. Perhaps the most significant development in Australia was the early childhood education and care reform agenda, agreed to by the Commonwealth and the State and Territory Governments in November 2008 (Council of Australian Governments [COAG], 2012). This reform agenda—still in effect today but radically transformed by the conservative coalition in power at the federal level—means that current early childhood educators, who having already obtained their TAFE qualification and been working in the profession, were now undertaking University study to obtain a teaching qualification. The reform agenda aimed to ensure that every child has access to a quality early childhood education program that is delivered by a 4-year university-trained early childhood educator, for 15 hours a week, 40 weeks a year, in the year before formal schooling (COAG, 2012). This initiative has significantly increased the demand for 4-year qualified early childhood educators.

As an impact of the national early childhood education and care reform agenda, Australia now has large numbers of early childhood educators—many of whom have years of experience—who are undertaking Bachelor of Education programs and consequently are, for the first time, undertaking mathematics education at a University level. This is a significant advance in the education of young children, because international research provides compelling evidence of the importance of children's early mathematics learning in the years before school (Lago & DiPerna, 2010). However, there is a significant body of research which suggests that many early childhood professionals are reluctant to engage in intentional teaching of mathematics (Anthony & Walshaw, 2009; Lee & Ginsburg, 2009), and that this reluctance may be explained by concerns about overly didactic programs, privileging other parts of the curriculum such as language and literacy, and teachers' anxieties about their own mathematics knowledge (Cohrssen, Church, Ishimine, & Tayler, 2013). A further challenge is that those early childhood educators who *do* include mathematics education as part of their curriculum typically hold a very narrow view of what constitutes mathematics, stressing the ability to count and knowledge of numbers (Department for Education and Child Development [DECD], 2012, cited in Carrington & Feder, 2013; Hunting et al., 2012). As such, a key role of tertiary early childhood education programs in the current reform climate is to promote educator content knowledge in mathematics as a means of providing children with access to high-quality mathematics education programs in the years prior to starting school.

To date, it appears that no research specifically focusing on the impact of the early childhood reform agenda on early childhood mathematics education has been reported. However, we suggest that this is a significant area for future investigation and research examining the impact of the reforms is encouraged.

3 Implications of National Curricula

Australia has a national school curriculum, for the first time in its history (Stephens, 2014). For other countries (such as New Zealand and Singapore) such curricular consistency is commonplace. Although Australia's previous state and territory curricula (especially with regard to mathematics) have always had many more commonalities than differences, most debate and research tended to identify those aspects of the curriculum that were not aligned across Australia. The scoping and projection for the national curriculum was forged from a common framework of assessment—with the advent for the National Assessment Program—Literacy and Numeracy (NAPLAN) in 2008 (National Assessment Program, 2013). This consistency led to push for a common curriculum, among other things.

Sustained research has been undertaken on the national curriculum, especially in relation to development of the curriculum and the content within each discipline area. Anderson, White, and Wong (2012), in their curriculum chapter in *Research in Mathematics Education in Australasia: 2008–2011* (Perry et al., 2012),

highlighted that both New Zealand and Australia have had major mathematics curriculum reform in the previous 8 years. They described the background to the reform and the processes undertaken during the development of both curricula. New Zealand was the first to undertake curricular reform in 2007, with complete implementation by 2010. The new national curriculum in New Zealand focused not only on the three content strands of Number and Algebra, Geometry and Measurement and Statistics, but also placed value on social inclusion, diversity and having high expectations. The *Australian Curriculum: Mathematics* was introduced into all states and territories across Australia between 2012 and 2015. Again, the focus of the curriculum was not solely on the three major content areas of Number and Algebra, Geometry and Measurement and Statistics and Probability, with four proficiency strands identified to link the content and processes of working mathematically: Understanding, Fluency, Problem Solving and Reasoning. The Australian mathematics curriculum also included a general capability called numeracy, which links across all new national curriculum subjects, such as English and History.

The development and implementation of these curricula has received much focus within the mathematics education community. For example, Zhang and Stephens (2013) and Gallagher, Hipkins, and Zohar (2012) have considered the curriculum reform from cross-cultural perspectives. Others have identified certain topic areas and how they have been enacted or portrayed through the curriculum (Anderson, 2014; Lowrie, Logan, & Scriven, 2012; Watson & English, 2013). There have also been publications critiquing the Australian Curriculum such as Atweh, Goos, Jorgensen, and Siemon (2012) and Luke (2010). Both the Atweh et al. and Luke works considered the extent to which new curricula would contribute to national goals and external cohesiveness. Politically, both New Zealand and Australia have undertaken reviews of the respective curricula (Hipkins, Cowie, Boyd, Keown, & McGee, 2011 and Australian Government, 2014 respectively). Not surprisingly, some reactions to these curricula have focused on key competencies and content. Ell and Grudnoff (2013), for example, considered the extent to which the new curriculum can address New Zealand's challenge to present its high standard of education to all learners, especially those from disadvantaged backgrounds, with a particular focus on the growing disparity between Māori and Pakeha students. In addition, they argue that the effect of international testing and comparison has given rise to addressing teacher quality through student outcomes. It may well be another case of not teaching to the test, but rather creating the teacher for the test. Since mathematics (and numeracy) is so prominent in the national and international comparisons of student performance, it would be interesting to consider the extent to which curriculum design is influenced by a country's perceived strengths and weaknesses.

The new "consistency" in curriculum content may lead to further studies in analysing student learning across states and territories in Australia. As Anderson (2014) pointed out, there is increased opportunity to focus on students' problem-solving skills now that four proficiencies (processes) have been described. Where the mathematics education field needs to move forward is through a better

understanding of the implementation of the curriculum in the classroom. How is the content being taught? Are there disparities between state department syllabus documents? Has having a new curriculum made a difference to teachers or schools?

4 Implications of National and International Assessment

It was anticipated from the 2008–2011 MERGA review that the National Assessment Program—Literacy and Numeracy (NAPLAN) debate would only intensify after its introduction in 2008. Many studies have focused on various aspects of the recently introduced high-stakes test (Lowrie, Greenlees et al., 2012). This, in association with a heightened awareness of international assessment regimes such as the *Programme for International Student Assessment* (PISA) (Organisation for Economic Co-Operation and Development, 2015) and the *Trends in International Mathematics and Science Study* (TIMSS) (International Association for the Evaluation of Educational Achievement, 2015), would result in an increase in research focused on the nature and design of such instruments. Initially this was the case, with a substantial amount of Australasian research devoted to the field. Leder (2015) reported that 10 % of the work presented at the joint conference in 2011 of the Australian Association of Mathematics Teachers [AAMT] and Mathematics Education Research Group of Australasia [MERGA] were in reference to the NAPLAN. It was for this reason that for the first time an entire chapter was devoted to assessment in the 2008–2011 MERGA review.

However, an analysis of the current Australasian research environment indicates that assessment practices such as the NAPLAN are no longer high on the research agenda despite unanswered big questions surrounding the controversial testing regime. Many of the studies focusing on the advantages and disadvantages of large-scale testing are from an international perspective, despite some efforts to address these issues on a national scale. Subsequently, Leder (2015) concluded that although small, contextualised investigations of participation and engagement issues are important, more large-scale research is called for in regards to the efficacy of national tests. This is particularly pertinent as the NAPLAN moves towards a digital form in 2016.

A theme that has emerged from the research has been the role of the learner and the impact high stakes testing such as NAPLAN has on school students and their families, not only in terms of curriculum and learning but also in regards to students' health and well-being (Polesel, Dulfer, & Turnbull, 2012). Aspects such as IQ, family socio-economic position and parental education have been identified as predictive factors for children's numeracy performance on a standardised mathematics test (Carmichael, MacDonald, & McFarland-Piazza, 2014). Students have even been classified as commodities, with the school's role being one of adding value by processing these raw materials (Lange & Meaney, 2014). These findings all point to a need to find alternate systems of accountability that recognise the complexities of assessment purposes, modes, conditions and contexts. These include

"national tests complemented by teacher assessment and moderation practice and sampling rather than census testing" (Klenowski & Wyatt-Smith, 2012, p. 76).

Research suggests that a re-evaluation of current assessment practices and reporting would also be beneficial for schools and teachers as Australian States and Territories compete for Federal "reward funding" based on NAPLAN performance. Lingard and Sellar (2013) highlighted several "perverse effects" (p. 634) of this new accountability regime including a partial dissolution of the State and Territory education systems and an added emphasis on improving or maintaining the reputation of schools to secure funding, rather than the intended objective of improving numeracy outcomes of students. Similarly Klenowski and Wyatt-Smith (2012) identified other effects including changes in teachers' pedagogical practices, principals feeling unfairly "threatened" if failing to improve test performance, unfair distribution of resources for students most likely to show improvement, parents encouraged to keep their children at home on test day and claims of teachers providing assistance to students while sitting the tests to improve their results. These findings warrant further study into teachers' practices at both macro and micro levels to help substantiate such claims and assist in necessary reforms.

A final implication of national and international assessments has been the growing body of literature on test item design, in particular the role of graphics and its impact on student performance. As high-stakes testing is now inevitable on a national and international scale, it is imperative that "assessment tasks are designed appropriately to measure the intended mathematics outcomes" (Lowrie, Diezmann, & Logan, 2012). This includes a more comprehensive understanding about the differentiation between redundant graphics that are unnecessary to students and those that are not (Greenlees & Logan, 2014) as well as the role of language and the use of contexts within an item. These issues will only gain momentum, particularly as NAPLAN moves to an online environment.

Research continues to suggest that high stakes tests such as the NAPLAN have a direct bearing on student well-being and a further impact on students' learning and experience of education by virtue of their effects on educational practices (Polesel et al., 2012). Consequently further research is necessary to ensure that, in both respects, such tests advance the interests of Australian students.

5 Implications of Teacher Accreditation

Since 2005, all teachers who hold or aim to hold a teaching position within an Australian school must become registered and accredited through the respective state authorities. However, it was only in 2012 that the Australian Professional Standards for Teachers were introduced by the Australian Institute for Teaching and School Leadership (AITSL). Teacher registration and accreditation is guided by the Australian Professional Standards for Teachers and previously the national professional standards for teachers. Implications for mathematics education have followed these regulations and national policies, with the main impact concerning

initial teacher education programs and the quality of students who enter these programs, especially in terms of their levels of literacy and numeracy. As Anderson et al. (2012) maintained, the requirement for teachers to demonstrate teaching standards provided opportunities for new research into the impact such monitoring and self-assessment would have on teachers' practices and school-based policy development. However, such research has not been forthcoming, possibly due to the evaluative nature of the work. It is difficult for such personalised research not to be judgmental.

A position paper from the Teacher Education Ministerial Advisory Group (Australian Government, 2015a) was commissioned to consider teacher education and standards. A number of questions were posed that related directly to mathematics education, especially associated with the broad question of "What is the balance between understanding what is taught and how it is taught?" Contributing questions around quality, discipline knowledge, pedagogy, specialisation and expert shortages were posed. Reactions have been varied. AITSL, for example, has provided a requirement that students who wish to enter initial teacher education programs have levels of literacy and numeracy broadly equivalent to the top 30 % of the population (AITSL, 2014). They provided examples of Year 12 subjects and study scores that might reflect this standard for the various states and territories. However, AITSL have stated that these subjects and scores at this standard are not pre-requisites for admission. Despite this claim, some state teacher regulatory bodies have indicated that there will be pre-requisites for entry into initial teacher education programs. Within NSW, for example, The Board of Studies, Teaching and Educational Standards (BOSTES) (2015) have stated that, from 2016, pre-requisites for admission to a degree in primary teacher education will include achieving 80 % or higher in a minimum of three subjects including English. There is no specific mention of mathematics, even though a minimal standard in mathematics was required for entry up to 2015. The Queensland College of Teachers has stated that all incoming students will need to meet pre-requisites of sound achievement in English, Mathematics, and for primary and early childhood programs, Science also. Other State and Territory bodies mention or refer to the literacy and numeracy standards for initial teacher education from AITSL without providing explicit pre-requisites. Hence, teacher education institutions are able to make their own decisions about how students are assessed against this top 30 % standard.

In conjunction with this standard, AITSL and the Australian Council for Educational Research (ACER) have developed online literacy and numeracy tests that will assess pre-service teachers' competency levels with the first cohort sitting in 2016. Although details of how the testing program will be enacted are continuing to emerge, it is proposed that all pre-service teachers will need to "pass" these tests in order to graduate. The Australian Council of Deans of Education (ACDE) has reacted quite strongly to this initiative. Collectively, they are concerned about the impact on student enrolments in their courses—and this is especially the case for Deans in non-metropolitan universities. As these students must graduate meeting specific criteria set out by the Standards, there is a need to ensure the students

entering teacher education programs have the capacity to complete the degree at these newly prescribed levels. The publication *Teaching for Excellence* (ACDE, 2014) argues that pre-service education programs should focus on the iterative relationship between content knowledge and pedagogy, raising examples from classrooms that are culturally and contextually different. One interesting suggestion is the desire to have specialist Science, Technology, Engineering and Mathematics (STEM) teachers to support the generalist teachers in primary schools. In fact, this form of targeted expertise has begun to be enacted in some pre-service courses and education jurisdictions. It seems likely that the debate surrounding the role and nature of discipline knowledge and pedagogical content knowledge will heighten in the coming years. This is especially the case for mathematics and numeracy knowledge, since the current challenges of attracting high quality mathematics students into the teaching profession will remain. The reform movement has gathered momentum in the cyclic nature of raising entrance requirements at a time of new student-driven university reforms—where universities are encouraged to enrol as many students as possible whilst raising the standards (in terms of quality) of those students (O'Meara, 2011). Such actions become increasingly complex in mathematics education, since some universities (especially those outside of the strong metropolitan institutions) are already starting from a relatively low enrolment base. As Anthony, Beswick, and Ell (2012) indicated in the 2008–2011 review, improvement in teacher education must be enacted through quality programs, and the effectiveness of the teacher educators. Little seems to be gained from research that focuses on single sites of practice or innovation and yet research is scant on analysing programs across multiple sites with common frameworks.

In New Zealand, a change to the requirements for all university entrance, not just for teacher education, was enacted in 2014. In order to attain a university entrance mark, students are required to competently complete units in both literacy and numeracy as defined by the New Zealand Qualifications Authority. This highlights the emphasis the New Zealand government has put on literacy and numeracy as pre-requisites for a university education. Since 2009, The New Zealand Teachers Council (NZTC) has endorsed the Registered Teacher Criteria, which outline the quality teaching standards that need to be demonstrated and upheld in order to be a registered teacher in New Zealand. Further to this, since 2007, NZTC have implemented the Graduate teacher standards aimed at addressing the quality of graduates into the teaching profession.

Adler, Ball, Krainer, Lin, and Novotna (2005) and Norton (2012) highlighted the fact that students who typically enter teacher education programs have limited mathematics knowledge, with many demonstrating content knowledge similar to that of a Year 9 student. Those who enter with lower levels of mathematics often leave with lower levels of content knowledge and pedagogical content knowledge compared to other graduates. Indeed, the policies put in place by AITSL and NZTC serve to address this concern. The question remains as to how individual universities will enact the various policies. Will such policies affect the mathematics subjects taught within initial teacher education programs, and is there any evidence that this has already happened? What types of bridging courses are available for

students who are admitted with lower levels of mathematics? Do these make a difference? At what point in the program will students be given the literacy and numeracy tests?

The impact on the mathematics education research community with regard to such policies is likely to be varied and ongoing. Nevertheless, the delivery of pre-service teacher education programs and the ongoing professional development of mathematics teachers will remain a central focus of government education initiatives and, hopefully, mathematics education researchers, into the foreseeable future.

6 Implications of the Closing the Gap Agenda

In both New Zealand and Australia, there are government agendas designed to "close the gap" on Indigenous disadvantage in health, education and employment. The agendas have existed for some time—in New Zealand, the notion of "closing the gap" was introduced through Te Puni Kōkiri (2000), while in Australia, the National Indigenous Reform Agreement (COAG, 2009/2011) committed all Australian governments to six ambitious "closing the gap" targets relating to life expectancy, infant mortality, education and employment.

Progress has been made in both jurisdictions but it has been much slower than desired. There have been improvements in areas such as infant mortality and life expectancy, particularly in New Zealand. The growing success and reach of Kōhanga Reo (Māori immersion preschools)—there are 460 across New Zealand and others in Australia and the United Kingdom (Te Kōhanga Reo National Trust, 2015)—has resulted in advances in early childhood participation with follow-on impacts in schools. There are also some positive indications about improvements in senior school achievement but Māori and Pasifika students continue to perform less well than Asian and Pakeha on international testing and participation rates in more advanced mathematics subjects in senior high school (Buntting, Jones, McKinley, & Gan, 2013). In Australia, progress toward the goals has been slow. In the Foreword to the 2015 *Closing the Gap Report* (Australian Government, 2015b), the Prime Minister wrote:

> This is the seventh Closing the Gap Report produced since targets were set by the Council of Australian Governments (COAG) in 2008. Despite good intention and considerable investment by successive governments, the disparity in outcomes remains. Although there has been some improvement in education and health outcomes for Indigenous Australians, in many areas progress has been far too slow. It is profoundly disappointing that most Closing the Gap targets are not on track to be met. (p. 1)

For the three education goals, the data are not good.

- *Ensure access for all Indigenous 4-year-olds in remote communities to early childhood education (by 2013).* This target has not been met. In 2013, 85 % of Indigenous 4-year-olds were enrolled, compared to the target of 95 %.

- *Halve the gap in reading, writing and numeracy achievements for Indigenous students (by 2018).* Australia is not on track to meet this target. There has been no overall improvement in Indigenous reading and numeracy since 2008.
- *Halve the gap for Indigenous Australians aged 20–24 in Year 12 attainment or equivalent attainment rates (by 2020).* Australia is on track to meet this target as the gap is narrowing in Year 12 or equivalent attainment. (Derived from Australian Government, 2015b, p. 5)

There has been one more educational target added in this report:

- *Close the gap between Indigenous and non-Indigenous school attendance within 5 years (by 2018).*

Progress on each of the "closing the gap" targets and, perhaps, more fundamental issues such as considering the nature of, the reasons for, and the potential of any gap, open up many opportunities for studies by mathematics education researchers in both Australia and New Zealand. Many MERGA members are undertaking such research with quite spectacular results in individual or small numbers of contexts. The challenge of running these innovations to scale remains.

7 Conclusion

Much has happened in Australasia since 2011 and much of this impacts on mathematics education and mathematics education research. Reforms in the early childhood arena—and their potential dismantling—provide very rich sources for research studies in mathematics education. Many researchers have asked the question about continuity of learning between prior-to-school settings and school, given the two curriculum frameworks in both Australia and New Zealand. We would expect to see this work critiqued in the following pages of this book. The same could be said of the other policy changes that have been delineated above:

- national curricula;
- national and international assessment;
- teacher accreditation; and
- Closing the Gap.

Each of these has provided mathematics education researchers with opportunities to build their agendas and to make a difference to children's learning outcomes. It will be a pleasure to read of the opportunities that have been grasped and the differences that have been made. The MERGA review *Research in Mathematics Education in Australasia: 2012–2015* will provide critique, commentary, and celebration of the increasingly important research in mathematics education that is being conducted by Australasians, in Australasia, for the benefit of our children, young people and all learners. It will be a very good read, and a very useful addition to the other eight MERGA reviews.

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