

Mathematics curriculum change: Parliamentary discussion over the past two decades

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Abstract

This paper explores views of mathematics that have been offered in parliamentary exchanges over the past two decades. It makes connections between the development of mathematics curriculum and the political and ideological arrangements in which curriculum is nested. In tracing how school mathematics debates in parliamentary sessions are set within specific social, cultural and economic contexts, we draw attention to an increasing national drive for competitiveness and to heightened allegations of falling standards.

Introduction

During the past two decades mathematics initiatives have been introduced to schools at an unprecedented rate, bringing wholesale changes to the meaning of mathematics within the school curriculum. An important catalyst for the initiatives has been a widespread and longstanding perception of falling standards. This perception, aligned with an ongoing questioning of the effectiveness of teaching methods, was precipitated by discussions within parliamentary debates over international test findings. Ministerial opinions about New Zealand's results in a number of international comparisons significantly contributed to a general understanding that most people still could not do basic mathematics despite years of being forced to study at school. This paper explores the ways in which those debates shaped official representations of school mathematics.¹

The changes to the mathematics curriculum during the 1990s must be set within the context of an economic, social, political and cultural crisis of unprecedented proportions (Openshaw, 2009). It was a context of growing public disenchantment with the state, and, inevitably, questions about education in general, and mathematics standards in particular, were

raised. As a way of meeting the challenges raised, the sitting government looked to the 1988 Picot Report, *Administering for Excellence: Effective Administration in Education* (Task Force for Review of Educational Administration in New Zealand, 1988), and through Tomorrow's Schools largely accepted its proposal of a new decentralised system of school management.

During the years following the establishment of the new system of educational administration there was a discernible trend towards increasingly systematic government interventions. These interventions were designed, at least in part, to demonstrate that something was indeed being done to address the alleged shortfalls in the strategies of previous governments. Since the 1990s, parliamentary exchanges over standards between government and opposition members have become more comprehensive and vitriolic. In this context, the official endorsement of initiatives such as the Numeracy Development Project, which was expressly designed to raise standards, is particularly noteworthy. Such programmes were not only intended to produce quantifiable outcomes, thus adding credibility to the Government's intent to defend their educational record, they were also expected to deflect criticism of that record by turning the responsibility for any failure (but not success) on to schools and teachers.

This investigation of the genesis of such initiatives involved identifying the factors that have led to renewed concern, tracing common patterns in critique, debate and response in parliamentary discussions, and ascertaining major departures from earlier initiatives. These considerations entailed the collection of a data set from the Parliamentary Library, complemented by relevant policy documents and curricula. It should be noted that these data sources are necessarily selective and need to be viewed within their historical context. In drawing attention to the importance of social, economic, political and historical events and processes in the rhetoric surrounding mathematics, the paper demonstrates an increasing national drive for competitiveness and heightened allegations of falling standards.

In our understanding, mathematics initiatives are created in social practices that are both material and ideological. This intuition has received a clear theoretical elaboration in critical social theories, whose

focus is on understanding and learning from different realities. Our study is conceptualised within this theorising, paying critical attention to the forces and movements behind social and educational processes and events (see O'Neill, Clark, & Openshaw, 2004). It seeks both an understanding of policy development and the emancipatory potential of such understanding.

Curriculum reformulation

In April 1993 *The New Zealand Curriculum Framework* (Ministry of Education, 1993b) was launched. Partly in an effort to counter future criticism from an increasingly vocal population with expansive investments in the school curriculum, a wide consultation process was initiated. This became the basis of a 28-page publication, said to offer a holistic and integrated curriculum and to represent a generic base of eight essential skills: communication skills; numeracy skills; information skills; problem-solving skills; self-management and competitive skills; social and co-operative skills; physical skills; and work and study skills. These skills were integrated into the seven essential learning areas of the curriculum framework, one of which was Mathematics.

The New Zealand Curriculum Framework was supported by new assessment procedures, established to monitor student progress against the framework's learning objectives. From a partnership between the National Qualifications Framework and *The New Zealand Curriculum Framework*, students gained credit in a seamless system through a progressively phased-in National Certificate of Educational Achievement (NCEA). In these initiatives the state was responding to contradictory imperatives: the desire to be seen as responding to community wishes, while effectively wielding enhanced powers in certain state management areas in the interests of better educational standards. Some movement away from the Thomas Report's emphasis on a "generous and well-balanced education" (Department of Education, 1943) could also be discerned, in favour of a new focus on a "training culture" that serviced economic and competitive imperatives and outputs. The pendulum did not swing completely, however, with the result that these two incompatible objectives intersected in many curriculum statements. In effect, the state was seeking to balance the devolution–

control conflict. Both left-liberal and right-of-centre critics have observed that this endeavour was indeed paradoxical in the sense that the state assumed a more direct role in monitoring academic achievement and national priorities while promising schools and their communities greater participation to reflect local interests.

Mathematics in the New Zealand Curriculum

In March 1993 the curriculum statement *Mathematics in the New Zealand Curriculum* (Ministry of Education, 1993a) introduced a new curriculum for mathematics in primary and secondary schools. It represented the first curriculum statement to be published after the development of *The New Zealand Curriculum Framework*, and its development was explained by the Minister of Education (Hon Dr Lockwood Smith) in this way: (*New Zealand Parliamentary Debates*, 1993, p. 12546):

A policy group ... comprising leading teachers, top New Zealand academics, and mathematics education researchers was established to monitor the development of the policy document. The actual curriculum document was brought together by a writing group of 12 of the country's leading mathematics teachers ... Up to 100 experienced teachers from all around New Zealand were involved in the early development of the draft. The draft mathematics curriculum document was sent to schools ... and 400 submissions were received by the Ministry of Education. The responses from schools and teachers throughout the country played an important role in shaping the final document.

Two United States documents were particularly influential in providing directions for the mathematics reformulation: *Everybody Counts: A Report to the Nation on the Future of Mathematics Education* (National Council of Teachers of Mathematics, 1989a) and, in the same year, *Standards: Curriculum and Evaluation for School Mathematics* (National Council of Teachers of Mathematics, 1989b). Both documents emphasised the changing roles of technology in the practice of mathematics, together with changing perspectives on the need for mathematics, on the nature of mathematics and, perhaps most significantly, on the learning of mathematics. As a result, in *Mathematics in the New Zealand Curriculum*, process skills of problem solving, reasoning and communicating came to be centralised through

the skills and concepts of the other five strands: Number; Measurement; Geometry; Algebra; and Statistics. The stated goals thus promoted aspects of a utilitarian educational philosophy while simultaneously espousing the intrinsic benefits of education in the Beeby tradition.

Falling standards

In 1997, National Education Monitoring Project (NEMP) researchers reporting on results from the third national monitoring project (National Education Monitoring Project, 1997) showed that most Year 4 and Year 8 students performed well on tasks involving the addition of two-, three- and four-digit numbers. Employing 100 mathematics tasks and using four different approaches to the evaluation, researchers found that most students knew their basic addition facts well. More than that, they rated mathematics as the third most popular of all curriculum subject at both year levels.

However, the NEMP study showed that students did not perform well on either multiplication facts or subtraction involving “renaming”. In addition, Year 8 students typically had poor understanding of division, fractions and decimals. Tasks involving money resulted in success for most Year 8 students and a moderate percentage of Year 4 students. Students achieved higher levels of success in performing measurement tasks than in estimating measurements. It was shown, too, that non-Māori students outperformed Māori students on most tasks at both levels.

In that same year (1997), the results of the investigation carried out during 1994 by the International Association for the Evaluation of Educational Achievement on the Third International Mathematics and Science Study (TIMSS) were made available (Ministry of Education, 1997). This investigation represented the most comprehensive comparative study up until that time. Forty-one countries, including New Zealand, participated in TIMSS, with more than half a million 9-year-old and 13-year-old students involved. The stated key objectives of the TIMSS study were to investigate mathematical and scientific performance levels across nations and to identify the major influences on educational success.

New Zealand students’ performance registered below the international average for both year groups. The findings initiated political debate and set

the policy wheels in motion. There was much discussion about the kinds of skills and knowledge required for “the knowledge society” and heated debate about how best to equip students to make a positive contribution as citizens. Irrespective of how one defined active and responsible citizenship, there was a general consensus that new measures relating to mathematics education were necessary and inevitable. The social facts of the issue—that school mathematics, as currently defined, failed to “engage and address the major social and cultural, technological and economic shifts” (Albright & Luke, 2008, p. 3) within the nation—spoke with compelling force.

In the House, Trevor Mallard (Labour) asked the minister, Wyatt Creech, for guarantees that training and resources were available that would effectively “reverse the trend that shows New Zealand 9-year-olds are performing well below the average standards of their international counterparts in maths” (*New Zealand Parliamentary Debates*, 1997, p. 2222). The public perception of declining standards and a loss of face within the global educational marketplace were being aired in the political arena. In reply, the Acting Minister of Education, Brian Donnelly (New Zealand First), pointed out that the mathematics curriculum was “brand new” at the time of the TIMSS study and had not had time to take effect. He reported that:

the introduction of new curriculums was accompanied by nationwide in-service teacher development at a cost of \$16 million targeted to maths and science, and by the development of teacher guide materials. (*New Zealand Parliamentary Debates*, 1997, p. 2222)

With additional professional development available for teachers, over and above the funding that schools allocated through their bulk operating grants, Donnelly explained that strategies were in place to improve matters on the mathematics front. He also announced the formation of a Mathematics and Science Taskforce that included teachers and academics “charged with providing practical advice to the Government and the Ministry on how we can lift performance in maths and science in our schools” (*New Zealand Parliamentary Debates*, 1997, p. 2223).

When the report of the Mathematics and Science Taskforce was released in 1997, the emphasis was on hands-on materials and professional support. It was this recommendation that contributed to the development

of the Numeracy Development Project (NDP). The report of the taskforce also expressed concern at the difficulty recruiting sufficient numbers of suitable teachers and raised concerns about the level of preservice training some receive. In the view of the taskforce, the place to begin was providing help for teachers of children in the 5-to-9-years age group. Such views, publicly articulated and widely reported, had the inevitable effect of stimulating further discussion and debate.

In May 1998 the Government Consultation Green Paper on *Assessment for Success in Primary Schools* proposed initiatives for “[b]ringing in external, nation-wide maths and literacy tests, based on the curriculum, for students in Year 6 and Year 8” (Ministry of Education, 1998). The official emphasis on raising the level of basic literacy and numeracy skills through increased testing derived from an economic rationalism and its new audit culture. Tightened accountabilities, rather than efforts to incorporate new modes of everyday living and new workplace demands into curricular mandates, were the order of the day.

On 21 October 1998 the National Government announced its \$19.5 million Literacy Strategy education package, which was to be distributed over the first 3 years followed by \$8 million per year thereafter, to assist in reading and mathematics programmes. The package signalled “a new emphasis on the three Rs—reading, ’riting and ’rithmetic” (Venter & Williams, 1998, p. 1) and included the following key components:

- curriculum changes focusing on reading, writing and mathematics, and initiatives for the Education Review Office (ERO) to monitor the changes
- establishing a Literacy Taskforce to advise the Minister of Education
- setting a goal so that by 2005 every child turning 9 would be literate and numerate
- a communications strategy (news media campaign) to gain support from parents, communities, iwi and businesses for improved basics.

When the preliminary results of the 1998 repeat Third International Mathematics and Science Study (TIMSS-R) were announced in May 2000 and revealed no significant improvement in performance levels from the 1994 results, mathematics was again deemed “a cause for

concern” (*New Zealand Parliamentary Debates*, 2000, p. 2675). The test had been administered to New Zealand Year 5 and Year 9 students for the purpose of mapping out trends in student achievement. Although New Zealand students’ performance was typically around the international mean, the findings were to prove a political embarrassment. The sitting government, even as it borrowed from and adapted directives from the former government, blamed the former government for failing to develop systems that would ensure success for all. The Minister of Education, Trevor Mallard, attacking the previous government’s record, noted in the House that students “made no progress”, and as a consequence achievement over the years “remained largely stagnant” (*New Zealand Parliamentary Debates*, 2000, p. 2675). He went on to say that:

This Government is going to make a difference. We want high standards, not low standards. We want tests that occur week by week and are reported to parents regularly, rather than the 4-year approaches taken by the previous Government. (*New Zealand Parliamentary Debates*, 2000, p. 2675)

This clearly signalled that changes were imminent. With the TIMSS-R results at hand in 2000, ERO was led to announce that there were important issues to address “if major goals for the future were to be met” (Education Review Office, 2000). In 2000, backed by additional funding from the Ministry of Research, Science and Technology, ERO published *In Time for the Future*, which reported on findings from a comparative secondary analysis of mathematics (and science) achievement levels of students at 9 and 13 years in New Zealand with those in Korea, Singapore, the Netherlands and Ireland. In elevating the global and the universal at the expense of the local and specific, the report identified a number of factors that were said to contribute to achievement across countries. That is to say, the hallmarks of a curriculum focused on diversity and difference were being abandoned for a model of the “right” mode of schooling based on a notion of knowledge as holding good across nations.

The report concluded with a number of priorities for investigation and action for New Zealand:

- a review of the curriculum
- an evolving curriculum development and revision process

- support for teachers in understanding and implementing the curriculum
- policy and teaching practice that is well informed by ongoing research and evaluation into teaching methods and practices
- the development of a mechanism for communicating the higher-order vision and policy implications for mathematics and science in the context of a knowledge society.

The report stated that “[t]hese matters should be addressed in the context of a comprehensive and cohesive education strategy for the longer term to ensure the education of New Zealand students is in time for the future” (Education Review Office, 2000, p. 105). The effect was to focus attention on the need for instigating change without explicating the practices and institutional economies of the nations from where the conclusions were drawn.

Changes in approaches to mathematics teaching and learning

Back in 1997 the New Zealand First Party had initiated the Mathematics and Science Taskforce, whose key recommendation was professional development for teacher support and funding for hands-on materials. The taskforce’s recommendations ultimately led to the development of the NDP. In 2000 a project evocatively entitled Count Me In Too, developed originally for schools in New South Wales, Australia, was initiated and piloted nationally.

As a result of findings from the Count Me In Too pilot, the NDP was developed as one arm of the Literacy and Numeracy Strategy. Co-ordinated at a national level, the NDP’s aim was to raise student achievement through raising teacher capability (see also Anthony & Walshaw, 2007; Chisnall & Maher, 2007). Successively introduced into schools over the 2000s, the project was initiated with the Early Numeracy Project for school Years 0–3. This was followed by the introduction of the Advanced Numeracy Project for Years 4–6, the Intermediate Numeracy Project for Years 7–8 and Te Poutama Tau—a project for teachers in Māori immersion settings. By 2005 the Secondary Numeracy Project was piloted within the junior high school.

The NDP project involved an extensive workshop programme for teachers and ongoing in-class support provided by facilitators. A Number Framework and a Strategy Framework provided a structure for the enhancement of teacher knowledge and teacher effectiveness. A national website database recorded students' progress, which schools were able to access to track the achievement against national numeracy standards.

In April 2002 Trevor Mallard, the Minister of Education, provided evidence that the NDP was making a positive difference for all students. He elaborated further:

The exciting results are that the greatest gains were made by the children who most needed to improve their maths ... and that improvements were made by all children regardless of where they live, their ethnicity or their school decile. (Mallard, as quoted in Scanlon, 2002, p. 3)

The minister also reported that students aged between 5 and 8 participating in the Early Numeracy Project were generally finding it easier to deal with numbers. They "made significantly higher gains in their maths learning than would have been expected of students not in the project" (Mallard, as quoted in Scanlon, 2002, p. 3). Teachers, it seemed, were taking the teaching approaches of the project on board and students were benefiting.

In September 2003, however, National MP Nick Smith articulated what was for many both the problem and the solution, via a discussion document entitled *Schools of Excellence*:

We're kidding ourselves that our education system is doing well, when the international data shows that our average achievement in literacy has slipped from first in 1970 to 13th this year and our disparity of achievement has become amongst the widest in the developed world. ("Kids' testing times", 2003, p. 9)

For Smith, the introduction of national testing would "drive good teaching practice in the classroom, resourcing for recovery programmes and accountability for school management" ("Kids' testing times", 2003, p. 9). Once again, the debate about declining standards surfaced. Threatened with a loss of standing in the global educational community, the response was, as before, more in keeping with the new corporate political economy

than an intellectual response. It was a drive to deliver the basics, couched within “a neoconservative educational fundamentalism” (Albright & Luke, 2008, p. 3).

When asked in the House a year later what steps the Government was taking to improve the teaching of mathematics skills, and to address the problem of persistent underachievement, the Minister of Education, Trevor Mallard, replied:

As part of our Government’s commitment to raise student achievement across the board, and other achievement across the board, we have invested in a range of numeracy programmes. For example, over the last 4 years over 8,000 teachers, most of them in primary schools, have been helped to be better maths teachers through professional development programmes. (New Zealand Parliamentary Debates, 2004, p. 14802)

Evidence of the Government’s commitment seemed to be at hand when the minister advised in 2004:

This week I have released four research reports showing that student maths skills are improving—that is, people who are still at school. There have been particular improvements in addition, subtraction, and multiplication skills at various levels, and evidence that students in the project have been learning better than those not involved. The Government has approved funding over the next three years to ensure that the majority of other schools and their students can participate. I invite members to go to their local school and see what they can learn. (New Zealand Parliamentary Debates, 2004, p. 14802)

However, he also noted that “Research shows that our 15 year olds are fourth in the OECD for numeracy skills, but I am concerned about the wide gaps between New Zealand’s best and poorest performers” (*New Zealand Parliamentary Debates*, 2004, p. 14727). With the results of the OECD comparison, the Programme for International Student Assessment (2004) study, at hand, mathematics once more became an issue for which a sitting government was vulnerable.

In the House, despite the fact that the opposition National Party had not yet finalised its national testing policy, the Hon Bill English, National

member for Clutha–Southland, posed a question to Labour’s Minister of Education, Steve Maharey. It was in May 2006 during the debate on the Third Reading of the Education Amendment Bill, and it related to how many New Zealand children at the end of Year 8 would be sufficiently literate and numerate to succeed in secondary school.

By way of response, a government spokesperson noted that about \$120 million had been invested in the professional development of teachers, in addition to \$27 million in projects to raise students’ numeracy and literacy standards (*New Zealand Parliamentary Debates*, 2006a, p. 4965). In Parliament in August 2006, Maharey reported favourably on the NDP, noting that evaluations of the project had demonstrated major improvements in the numeracy skills of students enrolled in the schools involved in the project up to that time. The highest gains were made by previous low achievers, particularly Māori and Pasifika students. A steady improvement in numeracy skills, he emphasised, was “good news” (*New Zealand Parliamentary Debates*, 2006a, p. 4966).

The introduction of the NDP had initiated a rebuilding of the infrastructure and networks surrounding the teaching, learning and assessment of mathematics. The changes certainly did seem to have a positive impact on student outcomes. For example, when the results of the 2005 NEMP study in mathematics were made available (National Education Monitoring Project, 2005), both Year 4 and Year 8 students demonstrated improved performance in almost all areas, particularly those involving complex tasks. The Government was not slow in taking the credit for the improvements. As Maharey put it, when asked directly in the House in 2006:

I think that we are the envy of many countries in that we do have the ability to take a snapshot in time, then use that to feed back into the results to improve the performance of students. (*New Zealand Parliamentary Debates*, 2006a, p. 4966)

As he noted, “Our investment in numeracy goes alongside our investment in literacy, to create a strong foundation for all New Zealanders to succeed in the school system” (*New Zealand Parliamentary Debates*, 2006a, p. 4966). By his account, the investment in the NDP was strongly, rather than loosely, coupled with enhanced student performance in

mathematics. In October 2006 Maharey continued the discussion by reporting on the results of TIMSS (*New Zealand Parliamentary Debates*, 2006b, p. 6154). The test findings put New Zealand up with the top six countries and demonstrated a significant improvement in mathematical achievements between 1994 and 2002. Forty-six countries participated in the study assessing Year 9 performance. The nation's students' mean performance was significantly higher than the international mean, and enhanced performance was noted, particularly for Māori and Pasifika boys (*New Zealand Parliamentary Debates*, 2006b, p. 6154). Further affirmation was to follow in the findings of the Program for International Student Assessment 2006 (Ministry of Education, 2007c), which surveyed 15-year-olds in mathematical, reading and scientific literacies in relation to students in 46 other countries. In mathematics, students in only five other countries achieved higher results.

In 2007 a revision of the national curriculum was launched in schools. Rather than replacing the essential elements of the NDP, the revised curriculum focused on the general. Informed by the curriculum review that took place between 2000 and 2002, and the *Curriculum Stocktake Report* of 2002 that followed the review (see Barker, 2008), *The New Zealand Curriculum* (Ministry of Education, 2007b) took as its starting point a vision of "young people as lifelong learners who are confident and creative, connected and actively involved" (Sewell, 2007, p. 4). "With less specificity than its predecessor" (Begg, 2008, p. 2), it provided a set of values to be encouraged, modelled and explored, and prioritised five key competencies: *thinking*; *using language, symbols and texts*; *managing self*; *relating to others*; and *participating and contributing* (see also Begg, 2008; McChesney & Cowie, 2008). Each of these was deemed "critical to sustained learning and effective participation in society" and each underlined an "emphasis on lifelong learning" (Sewell, 2007, p. 4). As one of the eight learning areas across the eight levels of schooling, Mathematics and Statistics was conceptualised in terms of relationships in quantities, space and data.

Within a context in which political trade-offs had become the norm, the Minister of Education announced the introduction of *The New Zealand Curriculum*, noting:

To ensure all students can and do succeed in education and to deliver on education's contribution to the government's themes, we are committed to leading and building on the positive changes occurring across the education system ... Five key competencies that everyone needs to live, learn, work and contribute as active members of their communities: managing self; relating to others; participating and contributing; thinking; using language, symbols and text. (Ministry of Education, 2007a, p. 11)

The successful implementation of the new curriculum appeared more urgent in 2008 after the finding that New Zealand mathematical literacy levels had shown no significant change over the past few years. Data from a further cycle of TIMSS released in December 2008 revealed that although Year 5 students' achievements increased between 1994 and 2002, achievement levels had remained constant between then and 2006 (Ministry of Education, 2007d). Although the "proper" approach to enhancing student outcomes appeared to be elusive, a ministry spokesperson focused on the "good news" story associated with the study. It was revealed that students were generally positive towards mathematics and that those who enjoyed it tended to achieve better results (Ministry of Education, 2008).

International test scores are a timely reminder to a sitting government and an opposition party of the importance of maintaining standards in the basics, and hence, by analogy, of maintaining our competitive edge. Thus, shortly before the national elections of 2008, John Key launched National's long-promised "crusade" to raise students' literacy and numeracy skills. Just prior to the Christmas break in 2008 Parliament debated the Education (National Standards) Amendment Bill, in which the overarching aim was to "raise standards of achievement ... in the compulsory sector". The Bill, set squarely within a context of economic downturn, allowed the National Party to set national standards in numeracy and literacy and would "create clarity about Government expectations, how schools can meet those expectations, and a process for putting in greater support where required". As with previous attempts within legislative environments to address contemporary issues confronting the state, shortfalls in numeracy achievement came under interrogation. Thus, the new initiative represented a political rather than sector-driven initiative and the stage was set for further changes to what we understand by school mathematics.

Conclusion

Curriculum is an expression of political purpose, a statement of the courses of action that policy makers intend practitioners to follow. As such, the development of curriculum is no more outside the power–knowledge nexus than any other human activity. Criteria that are established to control the meaning of school mathematics are all highly political, always carrying specific political agendas. In this paper we endeavoured to demonstrate this point by making visible the connections between mathematics curriculum and the political and ideological arrangements in which it is nested. In so doing, we have also drawn attention to the contemporary debate about numeracy (and literacy) within New Zealand society. What results is a view of curriculum as a “permutational ever-mobile space” (Elbaz & Elbaz, 1988, p. 108), and a view of shifts in thinking about school mathematics in relation to the social, political and economic environment.

Curriculum is created within shared space, history, time and possibility. As Smith (1987) noted, “We are ruled by forms of organisation vested in and mediated by texts and documents, and constituted externally by particular individuals” (p. 3). However, the creation of texts and documents is not by any means straightforward since oppositional discourses, generated within specific social structures, have competed for domination and authority over what can count as mathematical knowledge. Resonating with tensions between the individual and the collective, and between conservation and transformation, the meaning of school mathematics is constituted at the junction of oppositions, within the dynamics of unequal power and privilege.

Hence, curriculum change is inescapably moral. When democratically developed, curriculum responds to the constraints of the material world and to genuine human interests. Its value is found in the extent to which it helps those who participate with it to create and draw upon knowledge that gives meaning and direction to their experience of it. “Ethical know-how” (Sumara, Davis, & Ifody, 2008, p. 20) of curriculum development prepares us for a better future by building on the achievements of the past. This kind of know-how is not a developed habit. It is, as Neyland (2005)

reminds us, “exercised afresh in each situation” (p. 124). Irrespective of what the voices of power and privilege tell us about the future and how our curricula might prepare for it, the future is something for all of us to be involved in creating.

Dedication

This paper is dedicated to the memory of Jim Neyland, friend and colleague in mathematics education.

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Notes

1. Based on the well-known British *Hansard*, the *New Zealand Parliamentary Debates* (NZPD) have, since the 1850s, provided a record of parliamentary activities, including debates, questions and answers ranging over a wide variety of topics. Particularly since the 1980s, educational standards have been hotly debated, giving rise to fairly lengthy exchanges in the House. The role of both written and oral questions put to Ministers of the Crown are of particular interest in this regard. The questions typically fall into two types: (a) questions from the Opposition, intended to put the relevant Minister on the spot, so to speak, regarding the Government's record; and (b) so-called patsy questions, usually asked by relatively junior government members and designed to allow a minister to showcase government achievements in a given field.

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