



19/02/2024



**OIA: 1320171 – Math initiatives for use in primary and intermediate schools**

Thank you for your email of 11 December 2023 to the Ministry of Education (the Ministry) requesting the following information:

1. *Information regarding what initiatives are currently in use in New Zealand primary (including intermediate) schools to:*
  - a. *support teachers in teaching mathematics*
  - b. *support children whose learning in mathematics is falling behind expectations*
  - c. *support children whose learning is on track or ahead of expectations to accelerate in their learning and mathematics achievement.*

*I would like the information to include:*

  - *a description of the initiative, including specific information on the professional development of teachers who involved*
  - *how many schools have implemented or have had access to the initiative in total over the last 10 years*
  - *how many schools continued to use the initiative in the most recent year of data/information on this (e.g. in 2022)*
  - *what criteria is used to decide which schools will implement or have access to the initiative*
  - *what evaluations have been done to assess the effectiveness/impact of the initiative*
  - *what the level of Vote Education funding for the initiative has been, annually, over the last 10 years (calendar years or fiscal years).*
2. *The number of primary and intermediate teachers who do not have full teacher registration, annually over the last 10 years.*
3. *The number of secondary teachers employed to teach mathematics who do not have a tertiary qualification in mathematics, annually over the last 10 years.*
4. *The number of primary and intermediate teachers who are qualified as secondary teachers, annually over the last 10 years.*

Your request has been considered under the Official Information Act 1982 (the Act).



Please note that we have interpreted your request to be for all Ministry-led initiatives to support New Zealand primary and intermediate school teachers and students in mathematics, that were in place at the time of your request (11 December 2023).

### **1a. Support teachers in teaching mathematics**

In response to **part one A** of your request, one initiative is currently available to support teachers in teaching mathematics. Developing Mathematical Inquiry Communities (DMIC) is a model of mathematics teaching developed through collaboration between teachers working with predominantly Māori and/or Pacific students from relatively low socio-economic environments. The teachers work collaboratively with a DMIC researcher to develop a Communication and Participation Framework, designed to support teachers to engage students in reasoned mathematical practices within a community of mathematical inquiry. Teachers can use the Communication and Participation Framework adaptively, flexibly and in culturally responsive ways.

The use and implementation of DMIC has fluctuated between 95 and 126 schools since 2019, with it being in use across 126 schools in 2023. Regional Ministry offices can recommend schools that would benefit from being a part of this performance learning development and schools/clusters can self-nominate. Acceptance to the programme is a three-way conversation to determine readiness between the regional office, the school/s and the DMIC team.

The Ministry has not conducted any evaluations for this initiative as of 11 December 2023.

DMIC received funding of \$3.05 million (GST-exclusive) from 2019 through to 2023, totalling \$15.25 million (GST-exclusive).

### **1b. Support children whose learning in mathematics is falling behind**

In response to **part one B** of your request, we have identified two initiatives that support students who are not meeting curriculum expectations in mathematics and statistics.

#### **Programmes for Students (PfS)**

The Accelerated Learning in Mathematics (ALiM) and Mathematics Support Teacher (MST) initiatives, along with the 'Accelerated Learning in Literacy' (ALL) programme, are collectively known as 'Programmes for Students' (PfS).

ALiM is a short-term intervention for Year 1-10 students who have had at least 40 weeks of schooling and are not meeting expectations in mathematics and statistics. This intervention is a supplementary support to lift student achievement. It is in addition to, and connected with, students' classroom programmes.

Teachers are supported by mentors over the course of a year to inquire into their practice and share their learning with colleagues, and will complete cycles of inquiry focused on accelerating the targeted students in mathematics and statistics. Schools and Kāhui Ako | Communities of Learning can decide the timing and duration of the cycles, and which students will be included in each cycle.

All ALiM instruction is provided within the students' regular learning setting. They may or may not be in the same teaching group, but teachers can adapt their teaching practices in response to the individual needs of the focus students, in order to accelerate their progress.

The expected outcomes of ALiM are:

- Acceleration for small groups of learners who are achieving below or well below expectations.
- Growth in the teacher's professional knowledge and capability in using accelerative strategies with students.
- Mentoring of the teacher to grow leadership capability to lead sustained change in student achievement within their school context.
- Evidence of teachers strengthening their use of inquiry, particularly between cycles to analyse the effect of their teaching, identifying and using adapted strategies for the next teaching cycle.
- Evidence of teachers working in partnership with parents, families and whānau to support and sustain accelerative achievement gains.

Mathematics Support Teacher (MST) is a supplementary support to target students who are not meeting expectations in mathematics. MST is a two-year course for teachers and consists of mentor support, workshops, and tertiary study.

Teachers applying for MST have existing expertise in teaching mathematics, and work with small groups of students who are not meeting expectations in mathematics. The teachers are supported by mentors to inquire into their practice, in order to establish what works best to accelerate students who are well below curriculum expectations, and to share their learning.

The MST teacher is a classroom teacher – they are funded to spend time on MST outside their regular classroom teaching and will run a series of supplementary interventions for different groups of students throughout the year.

The MST teacher is supported to develop expertise in accelerating these groups of students, and to transfer that learning across the school. The MST is also required to undertake a post-graduate paper. Schools are required to ensure the accelerative effects gained from participation in MST are turned into a sustainable model within classrooms and across the school and/or Kāhui Ako.

The expected outcomes of the MST programme are:

- In the short term, acceleration for small groups of learners who are achieving well below the mathematics expectations.
- Increased teacher capability to work with those students who are well below expectations.
- Key knowledge gained from the MST teacher is shared with other teachers. The MST takes a lead role in transferring and mobilising knowledge and ensuring effective teaching practices are implemented school wide. The pool of highly effective teachers is expanded.

For both ALiM and MST, schools, clusters and Kāhui Ako are supported to develop conditions to support sustained achievement gains. These conditions include:

- an effective and culturally responsive mathematics teacher with good content and pedagogical knowledge, and the willingness to inquire into doing things differently
- leadership capability and support for ALiM, and a willingness to adapt and change at an operational and professional level
- school-wide monitoring and assessment through inquiry and knowledge building processes, underpinned by the concept of ongoing improvement.

All English-medium schools with students in Year 1-10 have been eligible to apply for the initiatives since 2014. We are providing the number of schools, by calendar year, that have been allocated one or more places in **Table 1** below.

**Table 1:** Number of schools who were allocated one or more places in each programme.\*

Year**	MST	ALiM
2023	35	99
2022	42	93
2021	33	178
2020	32	198
2019	35	217
2018	68	262
2017	86	201
2016	90	354
2015	106	373
2014	103	308

\*These numbers are for schools who had one or more teachers registered as of April in the given year. The numbers will fluctuate over the year as teachers leave/withdraw or are added to the programme mid-year.

\*\*Information for 2013 is not available.

The programmes are designed to create a sustainable approach to accelerating learning in the school. That is, that teachers who have undertaken the programme share their learning to develop school wide practices and approaches to maths learning.

Schools are able to apply for ALiM and/or MST for more than one cycle, and milestone reporting from providers of the programme suggests that some schools apply for the programme more than once. The information for how often this may have occurred is held by each of the Ministry's regional offices and is not centrally available.

The Ministry allocates a number of places (per teacher) for each region, each year. All schools with students in Years 1-10 are eligible to apply to ALiM and or MST. The schools fill in an application form which is sent to the regional office.

The Ministry's regional offices can also identify schools where there are large number of students who are not meeting curriculum expectations. Regional staff may then contact these schools if they have not already applied for the initiatives. Priority is then given to these schools, as well as Kāhui Ako where teachers can collaborate with others in the programmes in their area.

PfS has been evaluated five times in the past ten years. Evaluations have been carried out by both internal teams, and external contractors as follows:

- Achievement Analyses 2014 Programmes for Students
- Mathematics Support Teacher (MST) Programme 2014 School Research Overview Report
- 2014 Raising Achievement in Primary Schools: Accelerating Learning in Mathematics (ALiM) and Accelerating Literacy Learning (ALL)
- Achievement Analyses 2016 Programmes for Students
- 2019 Report Evaluating Programmes for Students

The Ministry also receives milestone reports from each provider twice per year. These reports detail the number of students who were involved in the programmes and the impact on their learning (i.e., the acceleration of learning).

A National Leader for ALiM and MST oversees the providers for PfS. Their role is to ensure clear communication and consistency in the delivery of the programmes. They also supply milestone reports each year.

The level of funding allocated annually has remained unchanged since the 2012-2013 financial year, at \$18 million (GST-exclusive).

## **Mauri Tū Mauri Ora**

Mauri Tū Mauri Ora evolved from the PfS initiative in 2008 when the Government signalled its intention to improve student achievement. Developed with Ngā Whanaketanga Rumaki Māori in literacy and numeracy, targeted short and intensive programmes were created to focus on lifting achievement of ākonga not yet working towards expected levels in te reo matatini and me te pāngarau.

Mauri Tū Mauri Ora ensures that appropriate te reo matatini me te pāngarau programmes and resources are made available to students in te reo Māori settings, and that this support meets both their academic and cultural needs.

The current suite of six Mauri Tū Mauri Ora initiatives provide flexible, tailored support for ākonga through programmes that support kaiako and kura to develop and sustain plans that meet ākonga learning needs. The programmes also build kaiako knowledge of strategies through strengthening and refining their practice, deepening reporting, and building knowledge of evidence gathering and data collection.

Mauri Tū Mauri Ora is into its fifth year of implementation, delivered by the following subject matter expert service providers:

- Haemata Tapui Ltd,
- Auckland Uni Services Ltd,
- Kia Ata Mai Educational Trust,
- Te Hua Kwariki Educational Trust,
- Learning Leaders, and
- The University of Waikato.

Their programmes work with ākonga and their kura to raise achievement in te reo Māori, pānui, tuhituhi, reo ā-waha and pāngarau. While Mauri Tū Mauri Ora programmes are not designed specifically to provide professional development for kaiako, kaiako have reported a growth in their understanding, skill, and delivery capability of te reo matatini me te pāngarau programmes through observing and participating in the programmes.

Of the six providers contracted to deliver Mauri Tu Mauri Ora, five provide programmes that are designed to support ākonga who need additional support in Pāngarau. We are providing a breakdown, over the past five financial years, for how many schools have engaged, had access to and/or implemented Mauri Tū Mauri Ora, as **Table 2** below.

**Table 2:** The number of schools that have accessed Mauri Tū Mauri Ora.

Provider name	2019	2020	2021	2022	2023
Kia Ata Mai	20	20	20	20	13
Auckland Uni Services	8	10	7	13	10
Te Hua Kowariki	8	5	7	7	5
Learning Leaders	N/A	8	8	2	2
The University of Waikato	N/A	5	5	5	3
<b>Total</b>	<b>36</b>	<b>48</b>	<b>47</b>	<b>47</b>	<b>33</b>

In 2023, there were 33 kura participating in the initiative. Provider milestone reports do not require providers to provide kura names, and it is therefore difficult to ascertain kura who have 'continued' in Mauri Tū Mauri Ora over this period. We do expect that some kura have accessed this support over long periods of time.

The criteria and participation selection process used by Providers for kura and ākonga are guided by the following principles:

- Established networks and relationships providers have with kura and schools.
- Providers work alongside school leaders and kaiako using ākonga data to identify and select ākonga to engage in programme.
- Ākonga who are achieving below expected levels in pāngarau meet the criteria for these pāngarau programmes.

Mauri Tū Mauri Ora has been evaluated twice, as follows:

- Mauri Tū Mauri Ora Theory of Action (2016)
- Mauri Tū Mauri Ora ākonga progress and achievement insight (2022)

Mauri Tū Mauri Ora has received funding of \$27.239 million (GST-exclusive) since the 2017/18 financial year. A breakdown of this funding, by financial year, is shown in **Table 3** below.

**Table 3:** Breakdown of the annual funding for Mauri Tū Mauri Ora by financial year (GST-exclusive).

2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Outyears
0.508m	5.019m	4.632m	4.27m	4.27m	4.27m	4.27m	4.27m

### **1c. Support children whose learning is on track or ahead of expectations**

In response to **part one C** of your request, the Ministry does not specifically offer any initiatives for students who are ahead of expectations in mathematics and statistics. However, the Ministry does support several initiatives aimed at students who have been identified, or self-identify, as gifted and talented in a particular subject area or activity. While these students may be gifted in the area of mathematics and statistics and receive support from the Ministry through one of our initiatives for gifted students, we do not hold any centrally recorded information that specifies the area that they received funding for. Therefore, I am refusing this part of your request under section 18(f) of the Act, as the information requested cannot be made available without substantial collation or research.

## **Parts two to four**

Please refer to our previous email of 19 December 2023 regarding **parts two and four** of your request, which were transferred in full under section 14(b)(ii) of the Act, as the information requested is more closely related to the functions of the Teaching Council.

Please refer to our letter of 30 January 2024 regarding **part three** of your request, which was refused under section 18(g) of the Act, as the information requested is not held by the Ministry, and we have no grounds for believing that the information is either held by or more closely connected with the functions of another department or organisation subject to the Act.

Please note, we may publish this response on our website after five working days. Your name and contact details will be removed.

Thank you again for your email. You have the right to ask an Ombudsman to review my decision on your request, in accordance with section 28 of the Act. You can do this by writing to [info@ombudsman.parliament.nz](mailto:info@ombudsman.parliament.nz) or to Office of the Ombudsman, PO Box 10152, Wellington 6143.

Nāku noa, nā



Pauline Cleaver

**Acting Hautū | Deputy Secretary**  
**Te Mahau | Te Poutāhū (Curriculum Centre)**