



Briefing Note: Release of the 2021 National Monitoring Study of Student Achievement (NMSSA) Insights Reports

To:	Hon Jan Tinetti, Minister of Education		
Cc:	Hon Kelvin Davis, Associate Minister of Education		
Date:	6 March 2023	Priority:	Medium
Security Level:	In Confidence	METIS No:	1304734
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Messaging seen by Communications team:	Yes / No	Round Robin:	Yes / No

Purpose of Report

The purpose of this paper is for you to:

- Note** the 2021 National Monitoring Study of Student Achievement – Wānangatia Te Putanga Taura (NMSSA) insights report for Technology, exemplars for the Arts, and updated te reo Māori cards.
- Note** the release of the reports on the Education Counts and NMSSA websites on 10 March 2023.

Summary

- NMSSA 2021 focused on three learning areas (Technology, Learning Languages, and the Arts).
- The key findings reports for each learning area which were released in November 2022 (BN1304734 refers) where we outlined the current support for teachers and our intentions in the refresh of the curriculum to improve outcomes for learners in these curriculum areas.
- Insights reports and resources have also been developed for teachers to support which will be released on 10 March.
- Insights from the Technology learning area were included in a paper for teachers, which focuses on computational thinking at Year 4, and how algorithmic thinking can build foundational coding skills.
- The Arts area generated exemplars for teachers from practical tasks in each of the four arts disciplines: drama, dance, music, and visual arts.
- For the Learning Languages learning area there is an update to the *Aronuitia te reo* cards, which were initially developed using results from the 2016 assessment. The cards are data-based conversation starters focused on te reo Māori learning opportunities. The 2021 update focuses on *Whakamanahia*, giving effect to Te Tiriti o Waitangi.
- An Insights poster which covers key findings from each of the three learning areas will be included in the Education Gazette on 13 March.

Proactive Release

- a. **agree** to proactively release this Education Report on the 13 March or soon after as per your expectation that information be released as soon as possible. Any information which may need to be withheld will be done in line with the provisions of the Official Information Act 1982.

Agree Disagree

Next Steps

- a. **note** the release of the following resources on the Education Counts website on 10 March 2023:
- i. Technology – Insights for teachers
 - ii. Learning Languages – Update to Aronuitia te reo cards
 - iii. The Arts – Exemplars for teachers
- b. **note** the inclusion of a summary findings poster, including findings from all three learning areas assessed by NMSSA in 2021, in the 13 March 2023 Education Gazette

Noted

Noted



Sean Teddy
Hautū – Te Pae Aronui

6 / 3 / 23



Hon Jan Tinetti
Minister of Education

07/03 2023



Pauline Cleaver
General Manager | Strategy & Integration
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03/03/2023

Background

1. The National Monitoring Study of Student Achievement (NMSSA) measures the achievement of Year 4 and Year 8 students in English-medium state and state-integrated schools across the entire New Zealand Curriculum (NZC) in a five-yearly cycle.
2. The main purposes of NMSSA are to:
 - Provide a national snapshot of English-medium student achievement at Year 4 and Year 8 against the NZC;
 - Identify factors that are associated with achievement;
 - Assess strengths and weaknesses across the curriculum;
 - Measure change in student achievement over time; and
 - Provide high quality, robust data and information for policy makers, curriculum planners, researchers, and educators.
3. NMSSA is a key source of system-level achievement data which is tied to the NZC and provides valuable information in curriculum learning areas that are traditionally hard to measure, such as the arts and health and physical education.
4. NMSSA includes a focus on the achievement and progress of priority learner groups: Māori students, Pacific students, and students with additional learning needs.
5. The NMSSA programme began in 2012, building on the strengths of NEMP (National Education Monitoring Project 1995-2010), and is a collaboration between the Educational Assessment Research Unit at the University of Otago, the New Zealand Council for Educational Research and the Ministry of Education.
6. The learning areas covered in the 2021 study were Technology, Learning Languages, and the Arts.
7. The Ministry of Education's goal is to shape an education system that delivers equitable and excellent educational outcomes. The New Zealand Curriculum (NZC) recognises that:
 - a. Technology: Technology education supports students to be innovative, reflective and critical in designing new models, products, software, systems and tools to benefit people while taking account of their impact on cultural, ethical, environmental and economic conditions.
 - b. Learning Languages: By learning an additional language and its related culture(s), students come to appreciate that languages and cultures are systems that are organised and used in ways to achieve meaning. Learning a new language extends students' linguistic and cultural understanding and their ability to interact appropriately with other speakers.
 - c. The Arts: Learning in, through and about the arts stimulates creative action and response by engaging and connecting thinking, imagination, senses, and feelings. By participating in the arts, students' personal well-being is enhanced.

8. A new study which builds on NMSSA named Curriculum Insights & Progress Study (CI&PS), is beginning in 2023. It will reflect the NZC refresh design changes to ensure it is inclusive and gives effect to Te Tiriti o Waitangi. It will also provide a richer and more fulsome understanding of student progress across the learning pathway, including an additional signpost at Year 6, as well as Years 3 and 8, mapping to the new phases of the refreshed NZC.
9. The changes to the study also strengthen the feedback loops in a system that learns to get easy-to-use curriculum insights to teachers so that they can use the information to inform their teaching.

The 2021 NMSSA reports for teachers

10. Key findings reports for Technology, the Arts, and Learning Languages were released in November 2022 (BN1304734 refers). In the earlier briefing we outlined the current support for teachers and our intentions in the refresh of the curriculum to improve outcomes for learners in these curriculum areas.
11. Alongside the key findings, insights and exemplars for teachers have been developed which will be published on the NMSSA and Education Counts websites on 10 March 2023.

Technology Insights

12. The insights paper for Technology focuses on computational thinking, and how algorithmic thinking can build foundational coding skills. The paper uses a task where Year 4 students' basic coding skills are tested by asking them to programme a robot to move in a particular sequence.
13. Algorithmic thinking is one of the six components of computational thinking that involves developing step-by-step processes to solve problems.
14. Year 4 students were required to write instructions to programme a robot to move along increasingly complex paths. As the paths increased in complexity, fewer students were able to successfully complete the programme. The report showed examples of how the students recorded their code (instructions) to programme the robot, from responses that were a fully mapped path, through to using symbols and repetitive instructions to represent the code necessary to programme the robots.

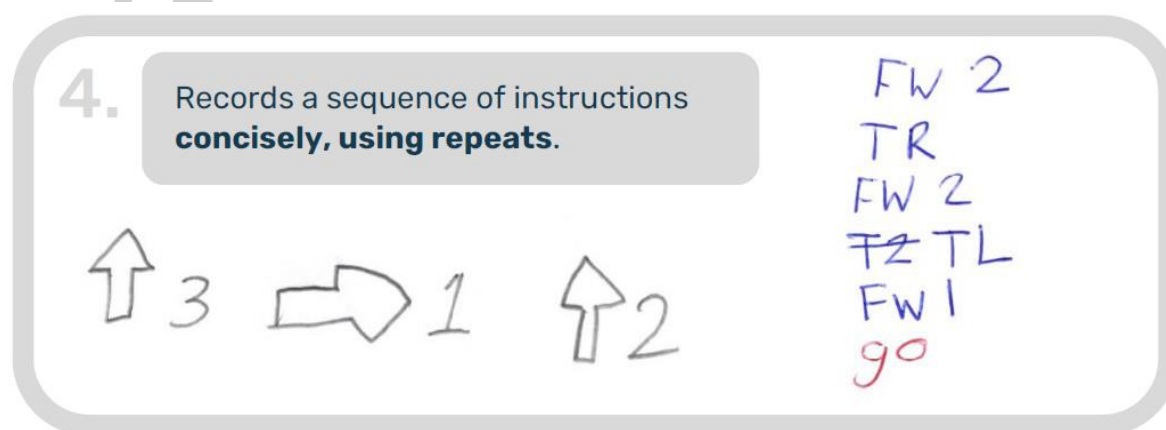


Figure 1. Examples of instructions written by Year 4 students to move their robot following the desired sequence

15. The main takeaways reported were that providing students with opportunities to develop sequences instructions engages them in algorithmic thinking, and that recording algorithmic thinking clearly and concisely builds foundational coding skills.
16. The report includes resources for teachers to access which can help them to understand and teach algorithmic thinking.

The Arts exemplars

17. Examples of student responses to a selection of tasks from the 2021 arts assessment were selected to create a resource to support arts teaching in primary classrooms.
18. Students took part in a practical performance task for each of the four arts disciplines – dance, drama, music, and visual art.
19. Dance and music tasks were group activities, while the drama task was performed individually with a Teacher Assessor. A group of students each worked on their own visual arts task. Each student completed two of the four practical art activities.

Dance

20. Students were required to create and perform a movement sequence/dance as a group which was based on three words that they selected to represent a picture they were shown. Words they could choose from included: swooping, twirling, melting, and gliding.
21. After performing, students explained how their sequence related to the picture and identified any possible improvements to the dance. Students were given credit based on both their performance and explanation of the dance.
22. Examples of Year 4 and Year 8 dances and explanations are provided as part of the exemplars, with diagrams of how the students moved. The examples include possible feedback from the teacher. The exemplars also include a description of how this dance task could be adapted and incorporated in teaching and assessment.

Drama

23. The drama tasks used as exemplars were both about consideration of what it means to be in a role as part of a dramatic performance. Exemplars were provided for tasks where students themselves stepped into a role after seeing it performed by someone else, and analysing what clues were given by an actor as they 'stepped into' a role.
24. The exemplars went on to explain why role is an important part of performance and what teachers can do to support their students to develop the skills and confidence to perform in a role.

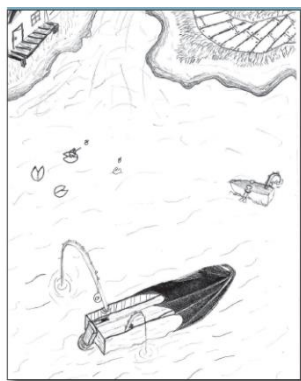
Music

25. The practical music tasks exemplified asked students to bring awareness of how different elements can be used and varied when playing music and how that adds impact to the performance.
26. Other tasks involved responding to music and looking at how students could use musical elements intuitively. Students needed explicit instruction if they were going to follow directions about making changes in things like tempo, pitch, and timbre.

27. The exemplars paper gives examples of how teachers can improve learning and musical literacy by exploring the elements of music with their students.

Visual Arts

28. The visual art performance task asked students to transform a picture of a wing into something new. The instructions told them to explore line, tone, and pattern.



29. The exemplars show a range of student responses and explain how the responses either meet the criteria for transformation or didn't. It then explains how teachers could use this or similar activities in their classrooms.

Figure 2. Example of a drawing using a wing as the basis, where the wing forms part of a boat.

30. Across the four practical tasks the students had opportunities to make choices, access to resources, time to develop their ideas and opportunities to discuss their intentions and strategies.
31. Across disciplines, the study found and reported that students used intuition and imagination to perform the practical tasks. However, they were less able to explain how they went about it. The paper finishes with useful resources for each of the four arts disciplines.

Te reo Māori Aronuitia te reo cards

32. Because students learn different languages and are in different stages of their learning journeys, NMSSA focuses its assessment on student knowledge of te reo Māori. The assessment is based on level 1 of the curriculum guidelines so that all students can respond to some questions, and the test is adaptive, so if students are getting all the answers correct, they get harder questions.
33. A set of cards were developed as a resource to support teachers to strengthen their reo Māori programmes from the results of the 2016 learning languages assessment. The cards are aimed at teachers and schools who are early in their journey.

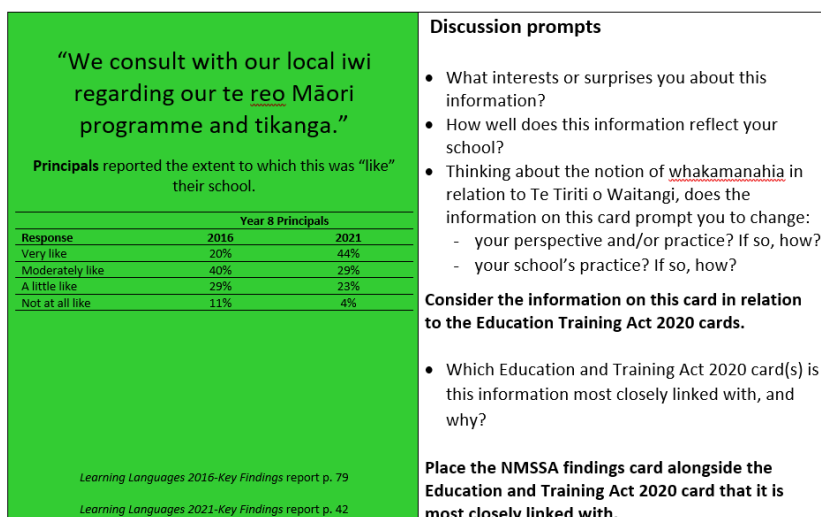


Figure 3. Example of a card included in the 2021 expansion set

34. The 2021 expansion set of cards focuses on Whakamanahia, giving effect to Te Tiriti o Waitangi through te reo. The additional cards provide schools with an opportunity to think about how their reo Māori plans, policies and programmes align with the expectations specified in section 127 (1d) of the Education and Training Act 2020.
35. The cards draw on principal and teacher viewpoints from NMSSA 2021 surveys and student achievement data from the te reo Māori assessment, part of the 2021 study. Students answered questions covering learning objectives from level 1 of the Curriculum Guidelines for Teaching and Learning Te Reo Māori in English-medium schools.

Summary findings poster

36. A summary findings poster will be included in the 13 March Education Gazette.
37. The poster includes key findings for each of the three learning areas assessed by NMSSA in 2021: The Arts, Learning Languages and Technology.

Annexes

- Annex 1: Subjects included in Cycle 1 and Cycle 2 of NMSSA
- Annex 2: Technology 2021 – Insights
- Annex 3: The Arts 2021 – Exemplars
- Annex 4: Learning languages - Aronuitia te reo expansion pack
- Annex 5: NMSSA 2021 Summary findings poster – Education Gazette

Annex 1: Subjects included in Cycle 1 and Cycle 2 of NMSSA

NMSSA programme

1. Data collected during the first cycle (2012 – 2016) provided the baseline for measuring change in student achievement over subsequent cycles, as well as the opportunity to monitor trends over time.
2. Cycle 2 of the NMSSA assessment programme commenced in Term 3, 2017. The five-year programme for Cycle 2 is outlined below.

Assessment Year	Learning areas	Year 4 students who achieved above the minimum associated with achieving curriculum level 2 objectives	Year 8 students who achieved above the minimum associated with achieving curriculum level 4 objectives
2017	Science	94%	20%
	Health and Physical Education	88%	33%
2018	Mathematics and Statistics	81%	45%
	Social Studies	73%	37%
2019	English Writing	63%	35%
	Reading	63%	56%
	Speaking	56%	40%
	Listening	76%	65%
	Viewing	78%	65%
2020	Other projects		
2021	Technology ¹	NA	NA
	Learning Languages ²	NA	NA
	The Arts	61%	52%

¹ Reporting is not provided against curriculum levels because of the relative newness of the digital technologies content, and the fact that the structure of the NZC is currently under review.

² The learning languages programme involved three components. The first two components focussed on a range of contextual and attitudinal information about the learning languages area from students, teachers and principals using questionnaires. The third component assessed students' knowledge and understanding of te reo Māori words and phrases.

3. The learning areas assessed over the first five-year NMSSA cycle are detailed below.

Assessment Year	Learning areas	Year 4 students who achieved above the minimum associated with achieving curriculum level 2 objectives	Year 8 students who achieved above the minimum associated with achieving curriculum level 4 objectives
2012	Science	85%	19%
	English: writing	65%	35%
2013	Mathematics and Statistics	81%	41%
	Health and Physical Education	97%	51%
2014	English: reading	58%	59%
	Social Studies	63%	38%
2015	The Arts	72%	63%
	English: listening	79%	70%
	English: viewing	77%	63%
2016	Technology	73%	53%
	Learning Languages ³	NA	NA

³ The learning languages programme involved three components. The first two components focussed on a range of contextual and attitudinal information about the learning languages area from students, teachers and principals using questionnaires. The third component assessed students' knowledge and understanding of te reo Māori words and phrases.