Te Tāhuhu o te Mātauranga
Ministry of Education

Briefing Note: Release of NMSSA 2022 reports

To:	Hon Jan Tinetti, Minister of Education		
Cc:	Hon Kelvin Davis, Associate Minister of Education (Māori Education); Hon Jo Luxton, Associate Minister of Education		
Date:	11 July 2023	**Priority:**	Medium
Security Level:	In Confidence	**METIS No:**	1312218
Drafter:	Jessica Forkert	**DDI:**	9(2)(a)
Key Contact:	Barclay Anstiss Pauline Cleaver	**DDI:**	
Messaging seen by Communications team:	Yes	**Round Robin:**	No

Purpose of Report

The purpose of this paper is to share with you:

The findings about the mathematics and statistics and health and physical education achievement of Year 4 and Year 8 students learning against the New Zealand Curriculum, from the National Monitoring Study of Student Achievement – Wānangatia Te Putanga Tauira (NMSSA) 2022, which will be published over the coming month.

Summary

1. NMSSA 2022 focused on two learning areas (mathematics and statistics, and health and physical education). Year 4 and Year 8 students from English medium state and state-integrated schools took part in this cycle in term 3, 2022.

2. The key findings from the study have been split into two reports: findings and context. The findings reports will be released on the NMSSA and Education Counts websites on **17 July**, while the contextual reports will be released on **1 August**. Copies of the achievement reports can be found in Annex 2 and 3, and we will send the other reports to your office before they are published.

3. Insights for teachers from both learning areas will be released in early **September**.

4. The headline results are:
    a. In mathematics and statistics: 82% of Year 4 and 42% of Year 8 ākonga meet or exceed the expected curriculum achievement level.
    b. In health and physical education: 87% of Year 4 and 33% of Year 8 ākonga meet or exceed the expected curriculum achievement level.

c. There was no significant change in the national average score for students in maths or in critical thinking in Health and PE. There were decreases for some groups of Year 8 students in maths: girls, Māori and Pacific students.

d. Students at high decile schools continue to score higher than their peers at mid and low-decile schools. The difference at Year 4 was 17 score points, and at Year 8 was 21 score points. Twenty-one points is the equivalent to 2.5 years of progress, or a curriculum level.

5. The lack of any overall decrease to scores over the COVID-19 period is a credit to New Zealand's ākonga and Kaiako.

6. This cycle of NMSSA continues to show the concerning pattern of low achievement at Year 8.

7. Ministry spokespeople for the report release will be Pauline Cleaver, General Manager, Strategy & Integration, Te Poutāhū, Julia Novak, General Manager, New Zealand Curriculum and Te Whāriki, Te Poutāhū, and Grant Pollard, General Manager, Data & Insights, Te Pae Aronui.

Proactive Release

8. **agree** that the Ministry of Education release this briefing in full once it has been considered by you, after 1 August 2023.

Agree / **Disagree**

Sean Teddy
Hautū
Te Pae Aronui

11/07/2023

Hon Jan Tinetti
Minister of Education

16/07/2023

Ellen MacGregor-Reid
Hautū
Te Poutāhū

11/07/2023

Background

9. 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.

10. 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.

11. NMSSA includes a focus on the achievement and progress of priority learner groups: Māori students, Pacific students, and students with additional learning needs.

12. 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.

13. 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. Mathematics and Statistics: Mathematics is the exploration and use of patterns and relationships in quantities, space, and time. Statistics is the exploration and use of patterns and relationships in data. These two disciplines are related but different ways of thinking and of solving problems. Both equip students with effective means for investigating, interpreting, explaining, and making sense of the world in which they live.

    b. Health and Physical Education: The focus is on the wellbeing of students themselves, of other people, and of society through learning in health-related and movement contexts. Four underlying and interdependent concepts are at the heart of this learning area: Hauora, attitudes and values, the socio-ecological perspective and health promotion.

14. The 2022 reporting marks the end of the NMSSA programme with the Curriculum Insights and Progress Study starting in 2023, alongside the development of Te Mātaiaho, the refreshed New Zealand Curriculum. The new study will measure students at the end of the first three curriculum progressions, Years 3, 6 and 8. As well as measuring two of the eight curriculum learning areas each year, the new study will include an assessment of literacy and numeracy every year. This higher frequency monitoring in the core foundational areas of learning will help us to respond faster to progress in primary school. NMSSA has consistently found that a higher proportion of Year 4 students are achieving at the expected curriculum level than Year 8. The inclusion of Year 6, and the literacy and numeracy study, will allow further exploration of when and why this happens.

15. NMSSA assessment uses a mixture of selected-response and short response questions, one-on-one interviews, and practical activities.

16. NMSSA measures the proportion of students achieving above the minimum scale score associated with achieving curriculum level objectives in the assessed learning areas. At the end of Year 4 most students are expected to be achieving

curriculum Level 2 objectives, and at the end of Year 8 most students are expected to be achieving curriculum Level 4 objectives.

The 2022 NMSSA Programme

Key Findings

17. Around 2000 students from 100 schools at each of Year 4 and Year 8 took part in NMSSA 2022.

Mathematics and Statistics (Maths)

18. Maths has been assessed by NMSSA in 2013, 2018 and 2022. The use of common assessment items across the three cycles means that we can see the achievement trend over time.

19. Achievement in maths has remained stable between 2018 and 2022, with no significant change in the average score at either Year 4 or Year 8. Between 2013 and 2018 there was a statistically significant increase in the average score at Year 8[1].

20. The lack of any significant decrease to scores over the COVID-19 period is a credit to New Zealand's ākonga and kaiako.

21. In 2022, 82% of Year 4 students were achieving at the expected curriculum level (Level 2 or above), while only 42% of Year 8 students achieved at the expected level (Level 4 or above), as shown in Figure 1, below.

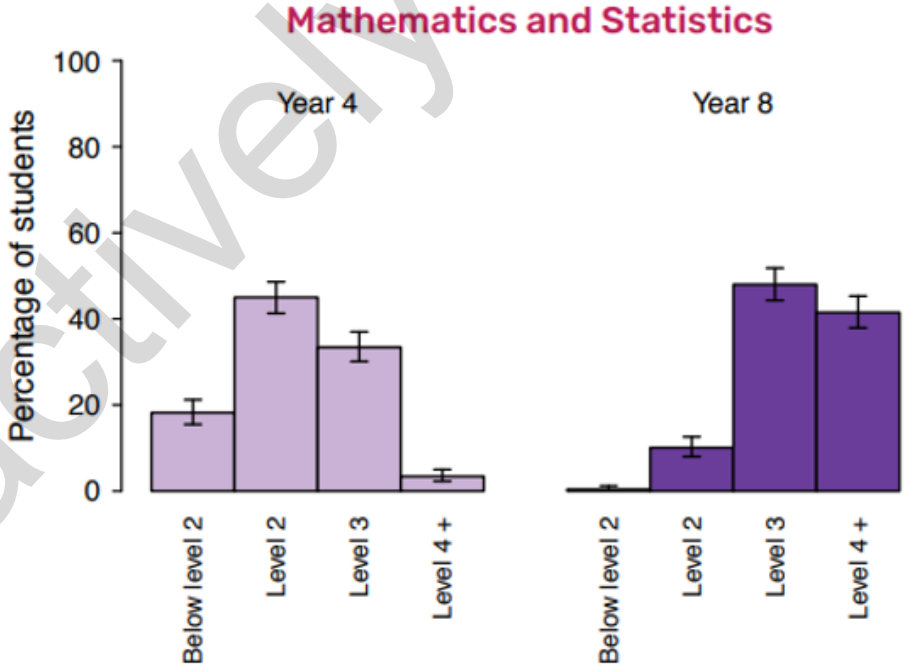

Figure 1. Proportion of students in Year 4 and Year 8 achieving at each curriculum level for maths

[1] Although the increase between 2013 and 2018 and the decrease between 2018 and 2022 were both 4 score points, only the increase was statistically significant at at a five percent threshold.

22. Although there was no change overall since the last NMSSA maths assessment, there was a significant decrease in average score for Year 8 Māori and Pacific learners and for Year 8 girls.

23. The average score for Year 8 girls decreased by 2.8 score points, while the average score for Year 8 Pacific students decreased by 4.4 score points, and Year 8 Māori students by 3.2 score points. The average progress made by a student in a year is 8 score points, meaning that Pacific students have lost the equivalent to half a year's learning since 2018, while Māori and girls have lost the equivalent of more than a term's learning each over the same period.

24. Boys score higher than girls at both year levels and the score distribution is wider for boys. This means that a smaller proportion of girls are achieving at the highest levels in maths.

25. Students at high decile schools scored higher than their peers at low and mid-decile schools. The difference at Year 4 was 17 score points and at Year 8 was 21. Twenty-one points is the equivalent of 2.5 years of progress, or a curriculum level.

26. Although this comparison doesn't control for other factors, school type also seemed to impact achievement in maths. Year 4 students attending full primary schools scored lower than those attending contributing schools, while at Year 8, students attending full primary schools scored higher than those attending intermediate schools. The differences at both levels were around 2 score points, or a term's learning.

Health and Physical Education (HPE)

27. HPE has been assessed by NMSSA in 2013, 2017 and 2022. The NMSSA HPE assessment generates two scales – critical thinking in HPE and learning through movement.

28. On the critical thinking scale, there were no significant changes in achievement between 2017 and 2022. There was a decrease in average score between 2013 and 2017 at Year 8.

29. There were no significant changes at gender, ethnic or decile band group level either. However, there were continued differences in achievement, with students at high decile schools scoring higher than their peers at low and mid-decile schools. Students who attended full primary schools also achieved higher than those at intermediate schools.

30. Eighty-seven percent of Year 4 students were achieving at the expected curriculum level, compared with 33 percent of Year 8 students, as shown in Figure 2 below.

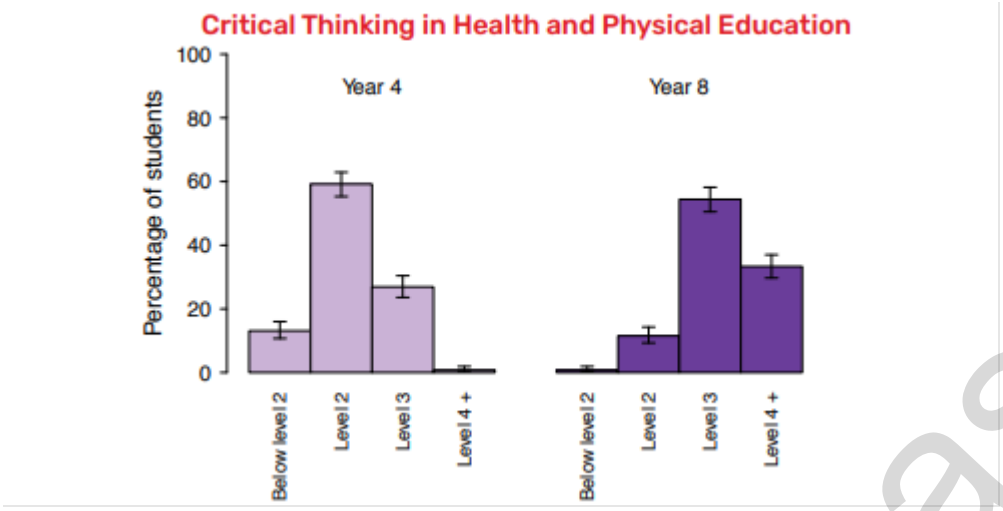

Figure 2. Proportion of students achieving at each curriculum level for health and physical education.

31. For the learning through movement scale, only some items were the same in 2017 and 2022, so comparisons are more difficult. The median change was a decrease by two percentage points, however very few of the changes were statistically significant.

Contextual information

Maths

32. Most students were positive about maths, as shown in Figure 3 below. Also, 90% of Year 4 students and 82% of Year 8 students agreed *quite a lot* or *totally* that it was important to keep learning maths as they got older.

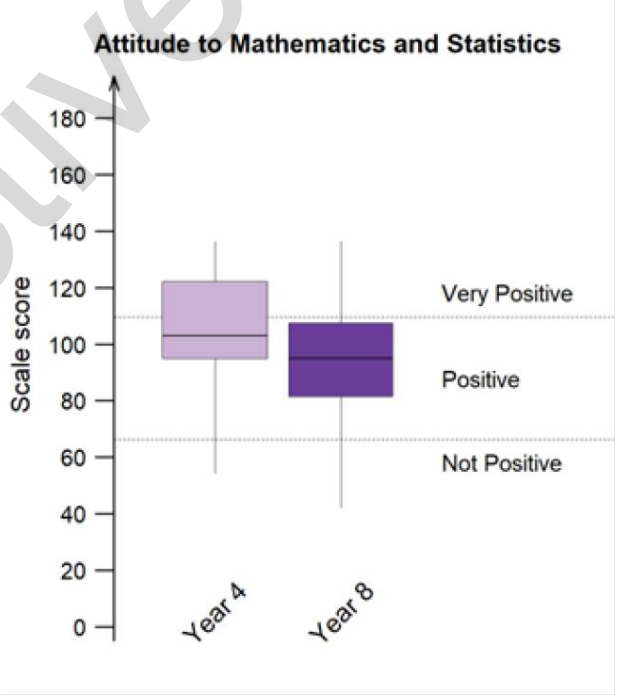

Figure 3. Distribution of Year 4 and Year 8 student's scores on the Attitude to Mathematics scale.

33. Year 4 students were more positive and confident about learning maths than Year 8 students; and boys at both year levels were more positive and confident about learning maths than girls. The difference between Year 4 and Year 8 students' attitudes has decreased since 2018.

34. Students at low decile schools also scored higher on the Attitude to Mathematics scale than students at mid and high decile schools.

35. There was a decline towards two of the six attitude statements at Year 8 since the last time maths was assessed. Fewer Year 8 students agreed that they 'liked learning maths at school' and that they 'wanted to know maths so that they could do something about important things' in 2022 than in 2018.

36. There is a positive relationship between student's attitudes and confidence in maths and their achievement. The relationship is stronger for confidence and is stronger at Year 8 than Year 4. The relationship between confidence and achievement at Year 8 is shown in Figure 4 below.

Figure 4. Distribution of Year 8 maths scores according to their level of confidence in maths.

37. All teachers agreed that teaching maths is important, while about 10 percent at each year level said that they didn't enjoy maths and were not confident teaching maths. Year 8 teachers were more confident than Year 4 teachers and teachers at both year levels were most confident teaching Number and Measurement, and least confident teaching Algebra.

38. Maths teachers continue to use ability grouping to organise their classes (49% of Year 4 teachers and 40% of Year 8 teachers said they use this strategy every or almost every day).

39. Overall, teachers tended to indicate that the students in their classes experienced each of the learning opportunities somewhat more often than the students themselves reported they were offered the same opportunities.

40. Over half of students at both year levels reported doing the same amount or more maths during the COVID-19 pandemic.

41. There was a big drop in the proportion of low decile principals who reported their school's overall provision for learning maths was good or very good, from 82% in 2018 to 58% in 2022.

Health and Physical Education

42. Year 4 students had more positive attitudes towards school than their Year 8 peers. Year 8 students agreed less often with each of the five statements by about 30 percentage points. Six percent of students at both year levels reported that they felt they did not belong at their school, as shown in Figure 5 below.

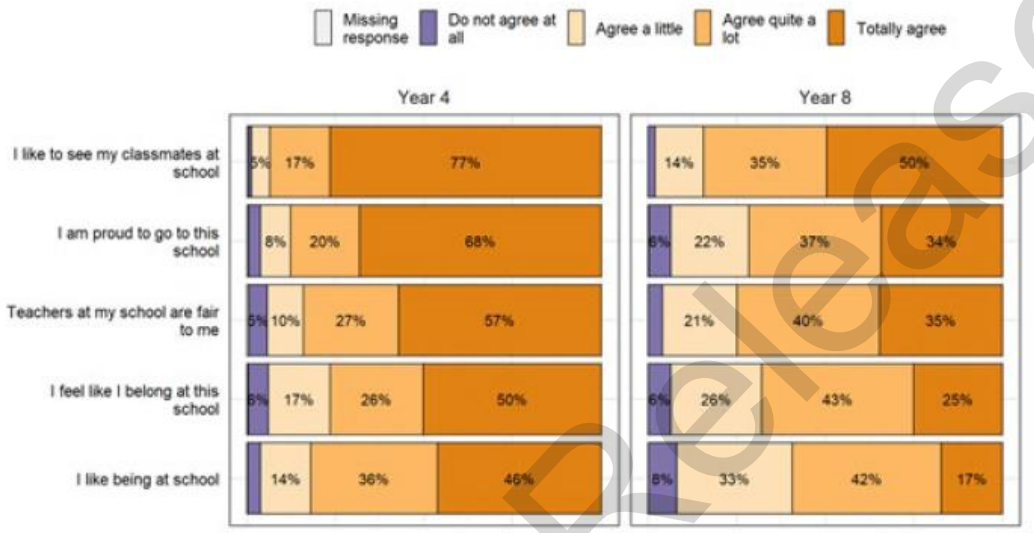

Figure 5. Proportion of Year 4 and Year 8 students who agreed or disagreed with statements about liking and belonging at school.

43. Around 80% of students at both year levels liked doing PE *quite a lot* or *totally*. Overall, students were more positive about, and rated their ability higher in PE than health, as shown in Figures 6 and 7 below.

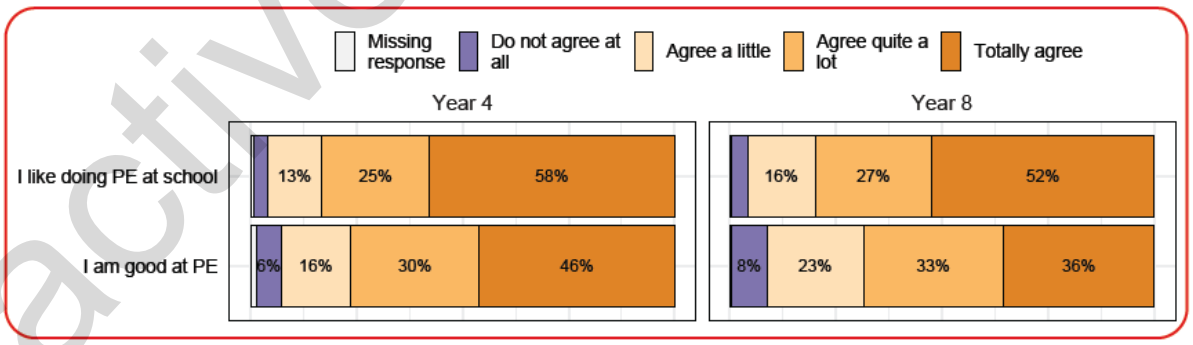

Figure 6. Proportion of Year 4 and Year 8 students who like doing PE and think that they are good at doing PE

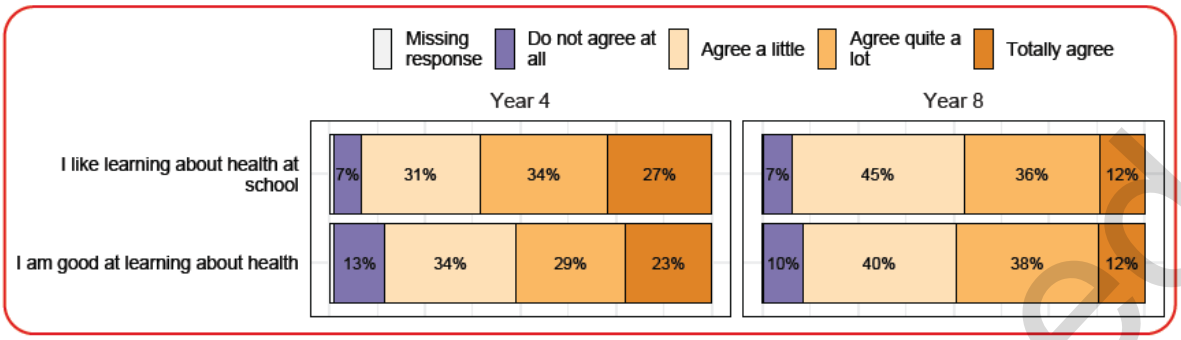

Figure 7. Proportion of Year 4 and Year 8 students who like learning about health and think that they are good at learning about health.

44. Boys rated their ability in PE more positively than girls, particularly at Year 8 (80% of boys at both year levels agreed a lot or totally agreed, compared with 72% of Year 4 and 59% of Year 8 girls).

45. Most teachers reported being satisfied with their work as a teacher, with around 90% agreeing with six statements such as 'I am proud of the work that I do' and 'My work inspires me'. However, they were less positive about continuing in the profession, with just over 16% disagreeing with the statement that they 'would like to continue teaching for as long as they can'. These results were very similar to what was found in 2017, when 16% of Year 4 teachers and 11% of Year 8 teachers disagreed with the statement.

46. Year 8 teachers were more confident teaching both health and PE than teachers of Year 4 students. Teachers were most confident teaching food and nutrition, body care and physical safety, and physical activity.

47. Students and teachers both reported that students were provided with a wide variety of opportunities to learn in health and PE at school. Both Year 4 and Year 8 students indicated that they *often* or *very often* had opportunities to learn about themselves and how to develop their personal skills. Teachers in low decile schools reported providing more opportunities for students to learn games or movement activities from different cultures than those in mid and high decile schools.

48. Only 43% of Year 8 principals and 26% of Year 4 principals reported that parents/whānau were provided with comprehensive information about their child's progress in health and PE.

Next Steps

49. Achievement reports for mathematics and statistics and health and physical education will be release on 17 July and published on both the NMSSA and Education Counts websites.

50. Contextual reports for both learning areas will be released in August.

51. Insights reports for both learning areas will be released in September.

52. Communications for the study, including key messaging and Q + As can be found in Annex 1.

Proactive Release

53. It is recommended that this Education Report is proactively released, with any information needing to be withheld done so in line with the provisions of the Official Information Act 1982.

Annexes

The following are annexed to this paper:

Annex 1: Communications: Key messaging and Q + A **9(2)(g)(i)**

Annex 2: NMSSA Mathematics and Statistics Achievement Findings 2022

Annex 3: NMSSA Health and Physical Education Achievement Findings 2022

Annex 4: NMSSA A3 Mathematics and Statistics

Annex 5: NMSSA A3 Health and Physical Education

Annexes 2-5 publicly available on EducationCounts.govt.nz