

The National Monitoring Study of Student Achievement

Wānangatia te Putanga Tauira

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In 2012 a new education monitoring system called the National Monitoring Study of Student Achievement (NMSSA) began collecting information about the achievement of Year 4 and Year 8 students enrolled in English-medium schools. Over the last 5 years it has had contact with over 20,000 students from more than 1,000 schools.

This Assessment News takes a quick look at NMSSA and describes how it works. It also summarises some of the results from the NMSSA studies in different achievement areas and discusses how teachers and principals might draw on NMSSA's work to make sense of achievement in their own schools.

Who runs NMSSA?

NMSSA is a collaboration between the University of Otago and the New Zealand Council for Educational Research (NZCER). These organisations share the leadership of the project and work together to develop the assessment programme. The University of Otago takes most of the responsibility for data collection and marking.

How does NMSSA work?

NMSSA is a sample-based study. Each year 100 schools at Year 4 and 100 schools at Year 8 are randomly selected from throughout the country and invited to take part. The schools that agree to participate provide NMSSA with a list of all students at the appropriate year level. NMSSA uses the lists to randomly select up to 27 of the students in each school to be assessed.

The students are assessed by specially trained teacher assessors, who visit each of the schools for two and a half days during term 3. The teacher assessors are usually seconded from their own schools to work for NMSSA for the term.

NMSSA works on a 5-year cycle that covers all learning areas. Up to two learning areas are assessed each year. The first 5-year cycle of assessment and reporting is nearing completion, and preparation has begun for the second cycle.

The study assesses a broad range of educational outcomes, including knowledge, skills, motivation, and attitudes. Within each learning area special attention

Practising teachers who are involved in NMSSA as teacher assessors often comment on the positive experiences and professional learning involved with the role.

"I have re-energised myself for the great job as a teacher. I have found lots of new and challenging ideas to try and the need to spend more time on the old 'teachable moment'."

"I've learned a great deal about focused and targeted assessment. How to use different types of activities and

questions to reach similar goals and also a lot about how different students respond to a range of approaches."

"Assessment can take many forms, it doesn't have to be 'hard' in the traditional sense (i.e., it can be fun) and is as much about measuring depth and breadth of thinking as the collection of hard facts. Assessment of creative and affective domains can happen via a clear matrix with precise criteria."

is paid to literacy and numeracy, as well as student development in key competencies.

NMSSA uses a range of assessment approaches. These include one-to-one interviews, group activities, independent paper-and-pencil tasks, hands-on activities, and approaches based on judgements made by the students' own classroom teachers. The study attempts to choose the most appropriate approach to suit each learning area.

Technology is often used to enhance assessment opportunities. For instance, one-on-one interviews and group activities are often videotaped, and computers are often employed to administer assessment tasks and record responses.

As well as involvement as teacher assessors, practising teachers take part in the preparation and marking of assessments. This allows the programme to build on teachers' know-how and provides opportunities for teachers to develop and enhance their own professional skills.

The study also collects contextual information from teachers and principals about different aspects of the teaching and learning programme in each school, including teacher confidence and experience, learning opportunities, resourcing, and professional learning. Contextual information is also collected from students; for instance, information about school climate and how often they are involved in a range of learning opportunities.

NMSSA is advised by reference groups with expertise in working with Māori students, Pasifika students, and students with special educational needs. NMSSA takes a special interest in the learning outcomes and experiences of each of these groups of students and provides focused reporting for each group.

What has NMSSA found out about achievement?

The approach NMSSA takes to assessment allows it to report achievement in each learning area on measurement scales that cover both year levels. Standard-setting exercises are used to determine the minimum scores (cut-scores) on the scales associated with performing at Levels 2, 3, and 4 of the curriculum. The exercises involve a panel of curriculum experts, including teachers, working together to compare the demands of the assessment tasks

with the expectations of the curriculum. Determining the cut-scores allows NMSSA to report achievement against curriculum levels.

As noted earlier, NMSSA has just about completed its first 5-year cycle of assessments. Table 1 shows how students at Year 4 and Year 8 have performed against curriculum expectations in each of the learning area assessments that have been reported on so far during the first cycle¹. The table is organised by learning area, and shows the year it was assessed and the proportion of students at Year 4 and Year 8 scoring above the minimum scores associated with curriculum Levels 2 and 4, respectively. In general, the results indicate that greater proportions of students have been able to meet curriculum expectations at Year 4 than at Year 8.

TABLE 1. PERCENTAGE OF STUDENTS IN NMSSA ASSESSMENTS ACHIEVING AT OR ABOVE EXPECTED CURRICULUM LEVELS ACROSS THE CURRICULUM FOR YEAR 4 AND YEAR 8

Learning area	Year	Year 4 (Curriculum Level 2 and above) %	Year 8 (Curriculum Level 4 and above) %
English: Writing	2012	65	35
Science	2012	85	19
Mathematics	2013	81	41
Health and Physical Education	2013	97	51
English: Reading	2014	58	59
Social Studies	2014	63	38
English: Listening	2015	79	70
English: Viewing	2015	77	63
The Arts	2015	72	63

How can schools use information from NMSSA?

NMSSA publishes comprehensive reports on each of the learning areas it assesses. These provide detailed information about achievement, along with reporting on the contextual information collected from students, principals, and teachers. The reports provide a system-

National monitoring in New Zealand before NMSSA

Before NMSSA, national monitoring at Year 4 and Year 8 was carried out by the National Education Monitoring Project (NEMP). Developed and run by the University of Otago under contract to the Ministry of Education, the programme quickly developed a strong national and international reputation, and carried out four 4-yearly

cycles of assessment across the curriculum between 1995 and 2010.

NMSSA has continued the work of national monitoring since 2012 and has sought to build on the strengths of the NEMP model.

More information on NEMP, including the reports published by the project, can be found at: <http://nemp.otago.ac.nz>.

wide perspective and allow staff in individual schools to consider their own programmes and student achievement levels within the national context.

One element of the reports that could be particularly interesting to classroom teachers and curriculum leaders is the scale descriptions that NMSSA constructs on the basis of its assessments. These provide detailed information on the skills and knowledge associated with the scales NMSSA has used to measure achievement in each learning area. The descriptions allow school leaders and teachers to get a picture of what NMSSA assessed and what students were able to demonstrate in terms of skills and knowledge at different achievement levels. The descriptions are supported with examples of the actual assessment tasks used.

The NMSSA reports also provide examples of assessment tasks and details of the questionnaire items used to explore students' attitudes, self-efficacy, and opportunities to learn. Schools are free to use these in their own context if they feel they will support their own inquiries.

Where can I find information on NMSSA?

NMSSA maintains a website with information about the study and access to all published reports (www.nmssa.otago.nz). NMSSA reports can also be found on the Education Counts website (www.educationcounts.govt.nz/publications/series/nmssa).

What is planned for the next cycle?

NMSSA is just about to begin its second cycle of assessment. Data collected in the second cycle will allow the study to report on any changes from the first cycle as well as providing up-to-date achievement and contextual information. The second cycle begins this year (2017) by collecting assessment information in Science and in Health and Physical Education. This will be followed by a programme in Social Studies and in Mathematics and Statistics in 2018.

FIGURE 1 AN EXAMPLE OF AN NMSSA SCIENCE TASK

Float and Sink

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SUPPLIES: container of water, paper towels,
objects to float and sink:
A (milk bottle top), B (steel washer), C (polystyrene cube), D (brass cube), E (teacher has this object)

Use the equipment to find out about floating and sinking.


- Record **five** things you found out.
 - 1) _____
 - 2) _____
 - 3) _____
 - 4) _____
 - 5) _____
- Why do some things float and other things sink?

- Think of some questions you could ask that would help you find out more about the idea of floating and sinking. Write down your **two** most interesting questions.
 - 1) _____
 - 2) _____

Tell the teacher when you have got to this point in the activity.

- Do you think object E will float or sink? (circle answer)

Float
Sink
Don't Know
- Why do you think that? (teacher will record your answer)




Look at the photo of the boat.

- Why can this boat float? (teacher will record your answer)

This is Sam's idea why a boat floats.

- Do you agree or disagree with Sam's idea? (circle answer)

Agree
Disagree
Unsure
- Why do you think that? (teacher will record your answer)



Final thoughts

The Ministry of Education's position paper on assessment (Ministry of Education, 2011) promotes a vision for schooling in New Zealand where assessment is used effectively at all levels of the system to improve teaching and learning. NMSSA supports this vision at the national level by providing high-quality information about how well our students are doing at two important points on their educational journey. Unlike many monitoring systems used in other countries, NMSSA is focused on the whole curriculum and doesn't involve compulsory national testing across all students. By using a light sampling approach and a range of assessment approaches, it seeks to create minimal disruption while at the same time collecting authentic information about students' progress against national curriculum objectives.

To maintain the integrity of the study and the usefulness of the information, it is important that all stakeholders continue to be willing to learn from and contribute to the programme. NMSSA particularly appreciates the involvement of teachers and schools, in terms of both engaging with the findings and participating in the study itself.

Note

- 1 NMSSA will be releasing reports on the Technology and Learning Languages learning areas (the latest areas to be assessed) towards the end of 2017. The report on the Learning Languages learning area will examine responses from students, teachers and principals to a range of survey questions. It will also include achievement information related to an assessment of students' knowledge of te reo Māori.

References

Ministry of Education. (2011). *Ministry of Education position paper: Assessment (schooling sector)*. Wellington: Ministry of Education.

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