MINISTRY OF EDUCATION
TE TĀHUHU O TE MĀTAURANGA

Briefing Note: PISA Frequency Consultation

To:	Hon Jan Tinetti, Associate Minister of Education		
Cc:	Hon. Chris Hipkins, Minister of Education		
Date:	6 October 2021	**Priority:**	Low
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Purpose of Report

The report updates you on a consultation process to collect feedback from stakeholders on the future frequency and design of PISA which will be used to form a national position on the issue for submission to the OECD.

Summary

- The OECD requests New Zealand's position on the future frequency and design of PISA. Either the study will continue with a 3-yearly cycle or move to a less frequent 4-yearly cycle but with increased measurement precision.
- We are consulting with internal and external stakeholders to form a recommended position, due on 20 February 2022, and are seeking your initial feedback on the proposal and consultation.

Proactive Release

- **Agree** that the Ministry of Education release this briefing in full once it has been considered by you.

Agree / Disagree

Alexander Brunt
Evidence, Data and Knowledge

06/10/2021

Hon Jan Tinetti
Associate Minister of Education

10/10/ 2021

Background

1. The Programme for International Student Assessment (PISA) is an international research programme that assesses 15-year-olds' knowledge and skills in reading, mathematics, and science literacy and collects rich contextual data via a student survey. It allows for a comparison of how well education systems around the world are preparing their students to meet real-life opportunities and challenges after they finish school. The 3-year frequency was chosen to enable governments to regularly monitor the progress of their education systems in terms of student outcomes. Annex 1 has additional background information on PISA.

2. While not curriculum-based, PISA is one of four large scale assessment studies which underpin our monitoring of literacy and numeracy outcomes (METIS 1272093 refers). Trend data has shown a long-term decline in reading and mathematics literacy as well as continued inequity. The Literacy and Maths strategy is a response to this information as well as other stakeholder input.

3. The PISA Governing Board (PGB) is requesting a national position, with consultation from relevant stakeholders, from each OECD country (and two member countries) on a proposal to decrease the frequency of the study from being 3-yearly to 4-yearly with a corresponding increase in the sample size. New Zealand is one of 40 countries who will give their position, and the outcome may differ from our preference.

PISA Frequency Proposal

4. The consultation has two options and will be decided by the PGB at its April 2021 meeting:
    a. **Option A**: Continue with 3-yearly frequency and design, rotating between reading, mathematics, and science as being a 'major' domain in each cycle. This means one subject is given more focus than the others. More items are given to students in the major domain compared to the minor domains. Measurement of more specific skills is calculated for the major domain (e.g., reading subscales: locating information, understanding, and evaluating and reflecting).

    b. **Option B:** Change to 4-yearly frequency but with a 'balanced' design. All three subjects are given equal attention in each cycle and slightly more schools and students will need to participate. This would increase measurement precision for the previously 'minor' domains and support more accurate trend information. Subscale scores will still only be calculated for one domain each cycle.

5. The benefits of option B are: 1) schools will be asked to participate less frequently (reduced burden), 2) more time for development, analysis and dissemination of the studies, and 3) more precise measures of all three domains (instead of just one one), allowing for slightly more accurate trend analysis across cycles. However, these benefits come at the cost of less frequent information on how the education system is performing with higher financial costs per cycle. See Annex 2 for a more detailed comparison.

6. Given that the decision impacts both the participants of the study (kura and ākonga) and the users of the data, we plan to gather feedback from a range of internal and external stakeholders to work through the implications of each option so that we can submit our national preference. External stakeholders include ERO, Treasury, DPMC, Stats NZ, and Principal and Teacher Associations.

7. PISA data is regularly used for outcome indicators because it is one of the most reliable system-level datasets on student achievement and well-being. Thus, some stakeholders

may strongly preference option A. For instance, PISA achievement data is used as an outcome indicator in the DPMC's Child and Youth Wellbeing strategy and Treasury's Living Standards Framework. A draft Education System Monitoring Framework for the NELP and TES lists PISA data as an indicator of student safety, belonging, literacy and numeracy skills, qualification expectations and teacher support (METIS 1271484 refers).

8. A limitation of PISA data has always been its infrequency and that it measures achievement at just one point in learners' journey (at 15-years-old). Future opportunities to have more responsive data are being investigated (METIS 1272093 refers). This includes new NCEA literacy and numeracy assessment standards which are currently being piloted. Once implemented these data will provide a comprehensive view of literacy and numeracy skills by the time students arrive at senior secondary year levels. The changes to the national curricula and the development of a record of learning also present other opportunities to measure progress and achievement on a more regular basis. PISA will remain as a benchmark measure to compare New Zealand with other jurisdictions.
9. We will provide a final recommendation to you after stakeholder engagement.

Next Steps

10. Time will be allocated at an upcoming Status meeting to discuss this consultation.
11. External stakeholders will be invited to submit feedback starting in November.
12. A final recommendation will be sent to you for approval before we submit our national position to the OECD by 20 February.

Annexes

Annex 1: PISA Background
Annex 2: Comparison of PISA Cycle Options

Annex one: PISA Background

1. PISA assesses 15-year-old students, who will be nearing the end of around ten years of compulsory schooling, with the aim of evaluating how well the education system has prepared them with the foundational skills and knowledge they need for success and informed citizenship in the modern world.

2. Alongside the three core areas, PISA innovates in assessing non-traditional competences, often advancing how we understand and measure individuals' capabilities in these areas. PISA 2022 includes a test of students' Creative Thinking.

3. PISA also looks at factors that contribute to achievement and wellbeing. This includes aspects of family background, the school environment, what happens in the classroom, and students' attitudes, experiences and perceptions.

4. The OECD provides a forum for countries facing similar issues or similar contexts to learn from each other. PISA provides international benchmarks that we can use to evaluate the performance of our students and education system in a wider international context and alongside comparator countries.

5. PISA is the gold standard in comparative education research, providing high quality education data to inform education decision makers in OECD member countries. Statistics NZ classifies PISA data as a 'Tier 1' statistic, the most trustworthy and high-value tier of statistics, essential for informing critical decisions. New Zealand has been involved in PISA since 1997.

6. In 2018, almost 6,200 15-year-old students from 194 (English-medium) schools took part in PISA. Schools and students are randomly selected to ensure the sample is representative of the New Zealand 15-year-old population. Eighty countries took part in PISA in 2018 and eighty-five will in 2022.

7. PISA is one study in a suite of large-scale studies that New Zealand takes part in:

Study/Survey	Frequency	Who is measured	What is measured
PISA Programme for International Student Assessment	3 years	15-year-old-students and principals	Reading, Mathematics and Science literacy
NMSSA National Monitoring Study of Student Achievement	Annual	Year 4 and 8 students and teachers	All 8 areas of NZC
PIRLS Progress in International Reading Literacy Study	5 years	Year 5 Student, parent, teacher and principal questionnaires	Reading
TIMSS Trends in International Mathematics and Science Study	4 years	Year 5 and 9 Students, parent, teacher and principal questionnaires	Maths and Science
TALIS Teaching and Learning International Survey	6 years	Year 7-10 Teachers and principals	Working conditions and learning environments

Annex two: Comparison of PISA Cycle Options

	Option A: 3-yearly (current design)	Option B: 4-yearly	Pros of Option B	Cons of Option B
The assessment design is…	1 major domain (with more testing time) and 2 minor domains. Major domain has related questionnaire. Innovative domain each cycle	Balanced – all 3 domains have equal testing time. One domain is 'focal' with a related questionnaire. Innovative domain each cycle.	All domains equally represented More time for development of innovative domain.	Questionnaire data for one domain every 12 years instead of every 9. Less opportunity for repeats of innovative domains.
The measurement precision is…	Data from all domains are reliable and robust. Major domain precision is slightly higher than the minor domains.	Data from all domains are reliable and robust. Increased precision for current 'minor' domains, equal to that of the 'major' domain.	Equally and highly precise for all domains every cycle.	Increase in precision may not be substantial i.e., no noticeable difference in any conclusions derived from the data.
Trend data…	Is reported for all domains.	Is reported for all domains.	Will benefit from more precise and robust measures.	Is less frequent, i.e., we wait 8 years to determine if a change occurred (compared to 6 years)
Sample size (school burden) is…	~220 schools (out of 485 eligible)	Increased to ~250 schools (out of 485 eligible)	Schools invited every 4 years instead of 3. Larger samples of subpopulations (i.e., ethnic and SES groupings), potentially slightly more precise measurement of these groups.	14% increase in number schools are asked to participate each cycle. Required 85% response rate is harder to achieve with more schools.

	Option A: 3-yearly (current design)	Option B: 4-yearly	Pros of Option B	Cons of Option B
The Ministry has a…	2-year overlap of work between PISA cycles (development overlaps with Main Survey, field trial preparations overlap with reporting).	1-year overlap between PISA cycles (development overlaps with reporting).	Stronger focus on one cycle at a time, more time for analysis and dissemination.	Operational expertise (MoE and contractors) may be lost between cycles. Higher national costs in data collection year.
Each domain framework and item pool are updated every…	9 years	12 years	More time for development and testing	Less frequent updates to each framework
International costs are…	In line with previous cycles, adjusted for inflation.	Lower annually, but higher per cycle.	Lower annually.	Lower value for money.
The overlap with other studies…	Ranges from cycle to cycle with potential to overlap with TIMSS Year 9. Cohort analysis is possible every 12 years.	Will consistently be one year behind TIMSS.	Schools won't be asked to participate in both TIMSS and PISA in same year.	Less opportunity to examine cohort effects between studies.