

FACT SHEET

Moving NAPLAN online – ACARA research and findings

Background

The Australian Curriculum, Assessment and Reporting Authority (ACARA) has been developing and delivering the National Assessment Program – Literacy and Numeracy (NAPLAN) tests to students in Years 3, 5, 7 and 9 since 2010. In June 2012 ACARA received funding from the Australian Government Department of Education to conduct research into computer-based assessments.

Pilot study: September 2012

The initial phase of research examined how the test delivery mode (whether paper or computer) affected student performance across year levels. ACARA investigated the impact of using a keyboard to complete a range of tests and also interviewed students to understand their cognitive and behavioural engagement with the computer-based assessment.

Research outcomes

- Students at all year levels were capable of engaging with the online delivery of the current NAPLAN tests.
- The transition of items to the online delivery mode would not substantially change the assessment properties of the NAPLAN tests.

Tailored test design study: August–September 2013

ACARA investigated the feasibility of the proposed tailored test design through a field trial delivered in schools from all states and territories. The tailored test design adjusts the difficulty of test items presented to a student, depending on the student's responses to previous questions. The primary purpose of the field trial ('the tailored test design study') was to collect empirical evidence about the performance of the proposed multistage adaptive test design for NAPLAN reading and numeracy tests.

- More than 250 schools participated voluntarily in the trial: schools from all Australian school sectors, across all states and territories, including some remote and very remote schools.
- Over 2500 students in Years 3 and 5, and 1500 students in Years 7 and 9 participated in each of the two tests.

Research outcomes

- The multistage adaptive NAPLAN test design is sound and feasible.
- These tailored tests offer more precise measurements of student performance, particularly for high- and low-performing students.
- Further work is required to finalise the measurement details of the tailored test design; in particular, testlet boundaries require further refinement.

Cognitive and behavioural engagement: August–October 2013

Additional studies were conducted to examine students' cognitive and behavioural engagement with the multistage test and how students reacted to some of its key features.

The main investigation of cognitive and behavioural engagement of students with the tailored test design showed that multistage testing will provide an opportunity for all students to be assessed by tests catering more fully for their assessment and learning needs.

An additional study investigated whether the tailored test design could accommodate the assessment needs of students with socio-educational disadvantage.

The interview and observation data showed the tailored test design enabled educationally disadvantaged students to remain engaged with the full test and exit the test with a sense of accomplishment.

Indigenous and remote students: ACARA collected information about the extent to which the tailored test design provides a better testing experience for Indigenous students and students in remote communities.

- Reports from teachers and test invigilators involved in this study suggest the tailored test design provided a more engaging testing situation for the majority of students.
- The online tests provided an opportunity for some students to showcase their knowledge more fully.
- Teachers reported that even some of the easier questions were still too difficult for students and some reached a point where they were no longer engaged with the test. Such findings indicate that further work is required to determine appropriate targeting of testlets.

Development study: August–September 2014

The development study took place from August to September 2014. The main purpose was to improve the targeting and measurement aspects of the tailored test design and its branching mechanism. Approximately 300 schools across Australia participated in the study. The outcomes from this study will be published in 2015.

What was investigated?

- Measurement details of the tailored tests design for reading and numeracy tests.
- Performance of testlets for future grammar and punctuation and spelling tests, including spelling items which students heard via audio files delivered by computer.
- Cognitive and behavioural engagement of students with reading and numeracy testlets containing the most challenging items.
- Engagement and interaction of students with the new types of technologically enhanced items for future reading and numeracy tests and the new audio-delivered spelling items.