Senate Standing Committee on Education Employment and Workplace Relations

QUESTIONS ON NOTICE
Budget Estimates 2012-2013

Agency - Australian Curriculum, Assessment & Reporting Authority

DEEWR Question No. EW0135_13

Senator McKenzie provided in writing.

Question

Border-Mail Article

Charles Sturt Professor Tom Lowrie earlier this month told the Border-Mail that in relation to the NAPLAN maths testing ""the use of graphics was confusing some students and testing more than just their numeracy skills"". About 70% of questions in the yr3 and yr5 tests involve a graphic and 30% of these aren't needed to answer the question. Professor Lawrie's testing of one question showed that 15% more students gave a wrong answer when a picture was included. Is the department aware of this issue? When did they become aware? Are they considering updating the tests to make them clearer for students? Graphics confuse children in NAPLAN (Border Mail 16/5/12) What processes are there in place for 'testing the test' to ensure the appropriateness of NAPLAN questions?

Answer

ACARA has provided the following response:

The item with the shoe image that Professor Lowrie refers to was on the 2010 Year 3 and Year 5 Numeracy tests.

a) Are they considering updating the tests to make them clearer for students?

The trial analysis did not indicate that the item was confusing to either Year 3 or Year 5 students and the trial data do not support Professor Lowrie's research findings. Current NAPLAN Numeracy test items only have graphics if there is a valid reason to include them.

b) Graphics confuse children in NAPLAN (Border Mail 16/5/12)

The rationale for the inclusion of graphics in the Numeracy tests is to support the text or reduce the reading load for students, to illustrate mathematical contexts in the text, and to increase accessibility of items for a wider range of students (for example, students who are better at processing visual information), provided the graphics add value to the items overall.

The interpretation of graphics is an integral part of Numeracy, and the expectation is that students will be explicitly taught how to interpret graphics that support the mathematical concepts they are learning. For example, items that test the concept of time often require students to interpret time using images of analogue and digital

clocks; items testing spatial awareness require students to interpret a plan of a room or find a location on a grid; images of coins are used in an item that requires students to calculate a money amount.

c) What processes are there in place for 'testing the test' to ensure the appropriateness of NAPLAN questions?

All NAPLAN items are trialled with students across Australia. The trial analysis examines the function of the key (correct answer) and the distractors (the alternative responses). This item was trialled with both Year 3 and Year 5 students, (300 in each cohort). The trial data indicated that the item functioned well for both year groups; i.e. the correct response was clearly the one that the students who were expected to get the item correct chose. Had a significant number of students been drawn to the incorrect response that Professor Lowrie considers to be a 'confusing' alternative, the data would have indicated this, and the item would not have been selected for inclusion in the tests.