

EDUCATION, SCIENCE AND TRAINING

SENATE LEGISLATION COMMITTEE - QUESTIONS ON NOTICE 2004-2005 ADDITIONAL ESTIMATES HEARING

Outcome: 1
Output Group: 1.1 – Funding for Schools

DEST Question No. E825_05

Senator Carr asked provided in writing.

Question:

1. Can you confirm that, in the TIMSS test for 2002, the results of which were released on 14 December 2004, some other countries showed a significant improvement over previous results while Australia stood still overall?
2. Can you confirm that Australian results were nevertheless above average internationally?
3. Can you also confirm that Australia's results in the PISA international test, released on 7 December 2004, showed Australia well above the average?
4. Is it the case that the two tests are different in what they measure, in that the TIMSS test focuses more strongly on curriculum content while PISA assesses capacity to apply specific knowledge to practical solutions?
5. What conclusions does the Department draw from Australia's results in these two tests?

Answer:

TIMSS and PISA Tests

1. The IEA Trends in International Mathematics and Science Study (TIMSS) assessed students at Year 4 and Year 8 in mathematics and science in both 1994/95 and 2002/03. Over that period, there was no statistically significant change in the average performance of Australian students in Year 4 mathematics, Year 4 science or Year 8 mathematics. There was however a statistically significant improvement in the average performance of Australian students in Year 8 science.

The results do show that a number of countries have raised their positions relative to Australia over this period. For example, in Year 4 mathematics, Australia significantly outperformed Latvia, England and Cyprus in TIMSS 1994/95, but these countries outperformed Australia in TIMSS 2002/03.

2. In TIMSS 2002/03 Australian students achieved statistically significantly above the international averages in Year 4 science, Year 8 mathematics and Year 8 science and at the international average in Year 4 mathematics.

3. The OECD Programme for International Student Assessment (PISA) assessed the reading, mathematical, scientific literacy and problem-solving skills of 15 year old students in 2003. Australian students scored statistically significantly above the OECD averages in all four assessment areas, with the Australian average scores at least a quarter of a standard deviation above the OECD average in all cases.
4. The PISA and TIMSS assessments have slightly different objectives and therefore measure different things.

PISA aims to provide information to OECD countries about how well their education systems equip young people to meet the challenges of today's knowledge societies. It does this by assessing the abilities of students, towards the end of their compulsory schooling, to apply their understandings and skills in reading, mathematics and science to situations they are likely to meet in adult life.

The aim of TIMSS is more specifically to improve the teaching and learning of mathematics and science at school level by providing data about students' achievement against the intended curriculum. To do this, TIMSS assesses how well Year 4 and Year 8 students have mastered the factual and procedural knowledge taught in school mathematics and science curricula.

5. Both studies enable DEST to benchmark the achievements of Australian students in key areas. The results from both PISA 2003 and TIMSS 2002/03 demonstrate that Australian students generally perform well overall in international comparisons of student achievement.

However, the studies also indicate areas where Australian students are either not performing as well as their international peers, or where their performance has not improved at the same rate. The studies also enable us to benchmark the performance of subgroups of Australian students and in this regard, the studies continue to demonstrate the relative poorer performance of our Indigenous students and students from geographically remote areas, and the weaker performance of boys in reading compared with girls.