ISA
International Schools' Assessment

What is the ISA?

The ISA is a set of tests used by international schools and schools with an international focus to monitor student performance over time and confirm that their internal assessments are aligned with international expectations of performance. The ISA assesses students in Mathematical Literacy, Reading, Narrative Writing, Expository Writing and Scientific Literacy.

Designed and developed by the Australian Council for Educational Research (ACER), the ISA Reading, Mathematical Literacy and Scientific Literacy assessments are based on the Programme for International Student Assessment (PISA). PISA is developed under the auspices of the Organisation for Economic Cooperation and Development (OECD). Please note that the ISA is not part of PISA and is not endorsed by the OECD.

Thousands of students from schools around the world participate in the ISA each year

What is ACER?

ACER is one of the world's leading educational research centres, committed to creating and promoting research-based knowledge, products and services that can be used to improve learning across the life span. ACER has built a strong reputation as a reliable provider of support and expertise to education policy makers and professional practitioners since it was established in 1930.

ACER

What is PISA?

PISA is a triennial international survey which aims to evaluate education systems worldwide by testing the skills and knowledge of nationally representative samples of 15-year-old students in key subjects - reading, mathematics and science - in order to inform national stakeholders about how well their education systems are preparing young people for life after compulsory education. To date, nearly 3 million students representing more than 90 economies have participated in the assessment. In 2018, around 600 000 students in 79 countries and economies participated in the PISA data collection.

Why was the ISA developed?

The idea for the program evolved from two sources: discussions with international schools and our role in PISA.

Through consultation with international schools in the East Asian region, ACER learned about the need for an assessment that would provide them with quantitative and qualitative feedback which could be used for improving learning, as well as for making comparisons with relevant populations. Although many schools were using existing external assessment for monitoring and self-evaluation, there was a general sense that, because these were primarily designed for national use, they did not cater for students from diverse linguistic and cultural backgrounds.

ACER worked closely with the OECD to design, develop and implement PISA during its first five cycles (2000 to 2012), and is now designing an assessment for the 2025 PISA innovative domain, 'Learning in the Digital World'. As a result of this work, ACER has invaluable experience in developing assessments that are culturally and educationally appropriate for students from many language and educational backgrounds.

These two elements confirmed the need for a program like the ISA and that ACER was in an ideal position to provide it. The ISA was subsequently launched in 2002.

Why do schools use the ISA?

Schools use the ISA because:

- It is not specific to a single curriculum.
- It tests core skills in mathematical literacy, reading, writing and scientific literacy.
- The test material is wide-ranging, drawing on many cultural and national sources.
- The assessments are designed with the knowledge that more than half of participants have first languages other than English.
- The ISA is not just a multiple-choice test; it includes open-ended questions and writing tasks which provide a better insight into students' thinking processes. The open-ended

questions require students to construct a response, for example, to explain their reasoning, to find evidence or to justify their opinion.

- It provides diagnostic information that can be used at the school, class, or individual student level.
- It enables performance to be compared to similar schools, schools in the region and around the world.
- It allows schools to evaluate the reliability of their internal assessments and confirm that they are aligned with international expectations of performance.
- It uses scaled scores that enable monitoring of student performance over time.
- It enables comparison of the results of Grade 8, 9 and 10 students with the latest PISA country results.

How and when is the ISA delivered?

Tests in Mathematical Literacy, Reading, Writing and Scientific Literacy are delivered in online format for students in Grades 3 to 10. Schools administer the tests once in the school year and can choose the October, February or May administration.

The ISA is administered by classroom teachers equipped with detailed test administration handbooks. Each test session takes approximately 45 minutes to one hour. Tests are delivered via a fully web-based testing platform and can be taken on various devices, including Macs, PCs and iPads/tablets. Each school is provided with a unique testing URL through which each student logs on using an individual username and password.

How is the ISA marked?

Marking is conducted by our highly-trained ISA marking staff. All markers are required to have a background in the relevant domain or learning area.

A marking guide is prepared for each of the Mathematical Literacy, Reading and Scientific Literacy constructed-response questions and for the two Writing tasks. The marking guides describe the criteria needed to gain a given score and provide examples of student responses typical of each score.

Markers receive initial training in the use of the ISA marking guides and follow-up training (if necessary) throughout the marking operation. The accuracy of the marker is checked against control scripts and team leaders monitor their markers to ensure any issues in the application of the marking guide are discovered and addressed promptly.

Who is consulted for feedback?

ACER has had ongoing consultations with many international schools and others involved in international education, through attendance at leadership conferences held by the international associations including: the Educational Collaborative for International Schools (ECIS); the East Asia Regional Council of Schools (EARCOS); the Association of International Schools in Africa (AISA); and the Near East South Asia (NESA) Council of Overseas Schools.

The ISA project team takes the opportunity to discuss the program with participating schools whenever possible and from time to time is engaged as a consultant for extended work in developing and evaluating curriculum and assessment with individual schools.

Specific feedback and consultation on the development of the ISA is conducted via formal trial testing and surveys to teachers and administrators during both trial and main administrations.

ISA Reporting

The ISA provides a set of customised reports for each participating school. The table below summarises the content, purpose and intended audience of each report.

Report	Broad description	Purpose	Intended audience
Individual	Provided for each individual student. Displays the student's overall performance in each test in relation to described levels of proficiency.	To show the student's **current level of proficiency** and help identify the skills the student has mastered and the skills they still need to develop. Progress can be tracked over time because the ISA scores can be compared from year to year.	Classroom teachers, individual students and parents
Class	Provided for each class. Displays question-by-question and aggregated record of individual students' results.	To provide **diagnostic information** about class, sub- group and individual performance. Gives teachers detailed information about the kinds of skills students have mastered and those they still need to learn. Displays how students performed on each question compared to other international schools. Allows teachers to directly compare students' results at different grade levels and to track performance over time.	Classroom teachers, subject and grade-level coordinators

School	Provided for each school. Displays aggregated school data on performance by grade level and subgroup, including comparisons with all ISA schools and 'like' schools (those with a similar percentage of students from English speaking backgrounds).	**Allows schools to benchmark themselves against other schools internationally**. Provides summary statistics that allow schools to monitor their performance over time and to compare their performance at each grade level with other schools that participated in the ISA. Provides the basis for trend analysis and school-level target setting.	Heads of school, curriculum coordinators, school boards
PISA National Comparisons	Provided for Grades 8, 9 & 1. Compares the school's performance against PISA country data.	Provides a broad picture of school performance in mathematical literacy, reading and scientific literacy **in relation to relevant national groups.**	Heads of school, curriculum coordinators, school boards
Interactive Diagnostic	Provided for each school. An interactive spreadsheet that shows results in a range of graphic displays, making it easier to identify trends and patterns and to gather diagnostic information.	Provides instant customisation of reports in graphic formats so schools can interpret and **use the ISA data to inform improvements in teaching and learning.**	Class teachers, subject and grade level coordinators, heads of school, curriculum coordinators
Interactive Tracking	Provided for schools as an additional purchase. An interactive spreadsheet that shows performance against ISA benchmarks and tracks performance of individual students and cohorts over time.	Allows schools to **monitor the performance over time of individual students and of different groups** of students within a school. Data from all schools participating in the ISA program has been used to establish reliable benchmarks. Schools can monitor over a number of calendar years whether student performance has changed in relation to these benchmarks.	Class teachers, subject and grade level coordinators, heads, curriculum coordinators

How can schools use the ISA data?

Extensive support material is available to help schools to use their ISA data to inform and improve their teaching programs. These include a number of guides and videos, for example:

- *The ISA Guide to Reports*;
- *How to use the ISA for Benchmarking and Diagnostic Information*;
- *A Guide to Interpreting the ISA Data for School Leaders and Administrators;*
- *Using ISA to improve learning;*
- *Overview of ISA reports.*

Annotated writing samples are also available to help teachers to understand what is expected at each of the Writing proficiency levels and can be used by teachers to moderate their own scoring of writing.

If schools require more information or assistance with ISA reports and data, they should contact the ISA Team directly at isa@acer.org.

What are scale scores?

The 'ISA Scale score' is different to the 'raw score' that you would get by adding up the number of score points for correct answers on each part of the assessment. Each learning area or domain (for example, Reading) has a scale, and the raw scores calibrated onto that scale are then converted into ISA Scale scores.

The ISA Scales for Mathematical Literacy, Reading and Scientific Literacy are based on those developed for the OECD's PISA program. However, it is not correct to describe ISA results as 'PISA scores'. The average proficiency of 15-year-old students in OECD countries for Mathematical Literacy, Reading and Scientific Literacy was set at 500, with a standard deviation of 100, for the year 2000. In the 2018 PISA administration the mean performance in Mathematical Literacy was 489, in Reading it was 487 and in Scientific Literacy it was 489.

The advantage of using scale scores rather than raw scores or percentage reporting is that the scale makes it possible to compare the results of all students within the same domain. For example, using scale scores in Reading, we can directly compare the performance of students from Grade 3 to Grade 10 for any given year. It does not matter which Reading test students completed, as their scale scores can be compared with the scale scores of any other students who have completed an ISA Reading test in any year.

Tracking the ISA Scale scores over time can provide quantitative evidence of variations in the abilities of individual students and cohorts from one year to the next, as well as evidence of the impact changes in curriculum or pedagogy may have had on student performance.

What are proficiency levels?

The ISA has also developed described proficiency levels based on PISA reporting.

- ISA Mathematical Literacy has four described content-based scales, with ten levels in each scale. Levels 4 to 9 are very slightly modified versions of PISA Mathematical Literacy Levels 1 to 6.
- ISA Reading is reported in terms of ten described levels of achievement across three aspects; ISA Levels 3 to 9 are virtually identical with PISA Reading Literacy Levels 1b to 6.
- ISA Scientific Literacy has nine described proficiency levels organised into three areas of competency. These are generic descriptions of the development of proficiencies based on the results of the test and are closely related to those developed for PISA. The Scientific Literacy scale has been expanded to include content below Levels 1 to 6 (Level 1a, Level 1b and Level 0), reflecting the recent addition of Grades 3 to 6 material in the test.
- ISA Writing has ten described levels of achievement for narrative/reflective writing, and nine described levels for exposition/argument writing.

How valid are the comparisons?

Comparisons provided in ISA reporting are based on the 'ISA Reference Norm' - a large dataset of test sittings from over 90 000 students in more than 400 international schools. The ISA Reference Norm is reviewed each year at the end of the testing cycle to ensure it accurately represents the most recent set of schools participating in the ISA.

ISA schools are also divided into four 'like school' groups on the basis of the proportion of students with an English speaking background so that schools can compare their performance in the assessment with other similar schools. We provide comparative data for 'like schools' but are careful to do so only when the numbers of students are large enough to yield a meaningful comparison. The ISA reports also include a t-test calculation of the significance of the comparisons.

The validity of the ISA results relies on the co-operation of the schools to administer the ISA in accordance with the provided instructions, to ensure all students complete the test under the same conditions. We rely on schools to keep the ISA content secure by ensuring that test content is not copied and that students are supervised throughout testing. This allows us to provide scaled scores that link the tests over time. We also rely on schools to only exclude students from their aggregate scores when they are genuinely unable to attempt the test, so that data accurately reflects student achievement in the school. It is up to the community of international schools to collectively support these procedures and ensure they are followed so the ISA comparative data is of maximum use to everyone.

How valid and reliable are the tests?

The ISA tests have a high level of validity and reliability.

A valid test gives an accurate measurement of the ability of all participating students, from the least able to the most able. ISA employs an experienced team of test developers, almost all of whom are former teachers. Appropriate content and language for each grade level is judged based on the collective experience of the test development team and after consulting a diverse range of grade level curricula from across the world. This is then confirmed empirically during trial testing, when the actual difficulty of the tasks for the target group is observed through data collection and analysis of student responses. Item Response Theory (IRT), the method of statistical analysis used by ACER, allows the proficiency of the students and the difficulty of the tasks to be calibrated on the same scale. This technique enables us to select tests that match the range of proficiency levels of the target group.

A reliable test ensures that the variable of interest (i.e., Mathematical Literacy, Reading, Scientific Literacy or Writing) is tested in a consistent way, such that one can generalise about the result. A simple summary of this kind of reliability is provided by the internal consistency statistic. A figure of 0.8 is considered a very good statistic for internal consistency. Overall, the ISA test reliabilities have means in the range of 0.78 to 0.88 from Grade 3 to Grade 10, which indicates that ISA tests have very good reliability for Mathematical Literacy and Reading from 2002 to 2021, and for ISA Scientific Literacy from 2013 to 2021. Since the two Writing tests are each assessed by only one task, internal consistency statistics cannot be calculated for this domain. The standard deviations are in the range of 0.02 to 0.05, which means that the reliability values are consistently good.

If you would like more detailed information on the construct and validity of the assessment, or to view tables showing the internal consistency figures for Mathematical Literacy, Reading and Scientific Literacy from 2002 to 2021, please contact us at isa@acer.org

Further Information

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