



Republic of the Philippines
Department of Education

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DepEd ORDER
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**POLICY GUIDELINES ON SYSTEM ASSESSMENT IN THE K TO 12
BASIC EDUCATION PROGRAM**

To: Undersecretaries
Assistant Secretaries
Regional Secretary, ARMM
Bureau and Service Directors
Regional Directors
Schools Division Superintendents
Public and Private Elementary and Secondary Schools Heads
All Others Concerned

1. The Department of Education (DepEd) issues the enclosed **Policy Guidelines on System Assessment in the K to 12 Basic Education Program** to:
 - a. articulate the bases, indicators, and measures of system performance that will provide insights on the effectiveness of curriculum and instruction program delivery;
 - b. provide the bases for the implementation of national and international large-scale assessments of student learning outcomes in determining the national education system's effectiveness and efficiency;
 - c. provide an overview of the national and international large-scale assessments per key stage; and
 - d. discuss the purposes and scope, frequency of administration, target group of learners, and schedule of various assessments.
2. Included in this policy is the schedule of assessments until 2023–2024, at the end of which the first cohort of learners would have completed the full K to 12 Basic Education Program.
3. These guidelines will remain in force and in effect for the duration of the program, unless sooner repealed, amended, or rescinded. All existing Orders and Memoranda that are inconsistent with this Order are rescinded.
4. Immediate dissemination of and strict compliance with this Order is directed.


LEONOR MAGTOLIS BRIONES
Secretary

Encl.:

As stated

Reference

N o n e

To be indicated in the Perpetual Index
under the following subjects:

ASSESSMENT
LEARNERS
POLICY
PROGRAM

SMMA/DO Policy Guidelines on System Assessment
0491 – June 2, 2017

POLICY GUIDELINES ON SYSTEM ASSESSMENT IN THE K TO 12 BASIC EDUCATION PROGRAM

SECTION 1: Rationale

The Department of Education (DepEd) ensures the continuous improvement of its systems to ensure that all learners have access to quality basic education. Sound information and data are required for the achievement of this goal. In the context of the K to 12 basic education program, reforms in curriculum and instruction had been introduced. The K to 12 curriculum provides new standards that basic education graduates must attain at different grade levels and key stages in terms of content knowledge and performance standards. To effectively perform its function to ensure the continuous improvement of teaching and learning processes, this policy articulates how system performance will be assessed. Therefore, this policy provides the basis for the conduct of various strategies and processes for the following purposes:

1. Establish baselines for the basic education system and the implementation of the K to 12 curriculum in schools in terms of teaching and learning.
2. Monitor the implementation of the K to 12 curriculum in schools in terms of teaching and learning.
3. Measure effectiveness of instructional reforms that are part of the K to 12 basic education program.
4. Generate reliable data for purposes of international benchmarking.
5. Provide bases for the improvement of programs for learner development, curriculum implementation and school effectiveness.
6. Provide evidence that will aid policy formulation, planning, and programming at the division, regional, and national levels.

SECTION 2: Scope

The use of the information generated on the basis of this policy must benefit all learners. As such, the information to be generated must be able to reflect their diversity and unique contexts. Internal and external assessments are intended to reflect such diversity at the system level. They should be able to illustrate and nuance system performance in the context of diverse learning environments.

This policy provides options for the types and schedule of internal and external assessments, which will be implemented between 2016 and 2024. To assess the continuous improvement of teaching and learning processes, data on learning outcomes will serve as proxy indicators of system effectiveness and efficiency. Annex 1 indicates

the summary of these assessments with details on the scope, target grade level, schedule of testing, and release of data, among others. Included is participation in international assessments that will allow for benchmarking with other countries.

SECTION 3: Definition of Terms

1. **Effectiveness** means producing a decided, decisive, or desired effect.
2. **Efficiency** is the quality of being productive without waste.
3. **Large-scale assessments** measure student learning outcomes in particular learning areas or domains. These are wider and bigger in scope, and are used to measure what learners know and can do based on a standard criteria and/or expectations. Internal/national assessments are conducted by the DepEd. External/international assessments are conducted by international organizations such as the Organization for Economic Cooperation and Development (OECD) and the International Association for the Evaluation of Educational Achievement (IEA). The DepEd may select in which international assessments to participate.
4. **Learning outcome** is the totality of information, knowledge, understanding, attitudes, values, skills, competencies, or behaviors an individual is expected to master upon successful completion of an educational program (UIS, 2011). The outcome of these educational processes is usually measured through standardized tests. The test results can be used as proxy indicators to measure the effectiveness of the educational system.
5. **Proxy indicator** is an indirect measure or sign that approximates or represents a phenomenon in the absence of a direct measure or sign. It is also known as indirect indicator.
6. **System assessment** measures the effectiveness of an educational system. It is designed to determine the degree to which the system goals are achieved across regions, curricular areas, and learners. It may also provide evidence and data for monitoring and evaluation.
7. **System performance assessment** refers to how effectively and efficiently the system delivered basic education vis-à-vis the set of indicators and versus its articulated targets on the Philippine Development Plan.

SECTION 4: Mechanisms and Schedule

The Bureau of Education Assessment (BEA) will manage system assessment. DepEd Order No. 52, s. 2015 (New Organizational Structures of the Central, Regional and Schools Division Offices of the Department of Education) enumerates BEA's general office functions, which includes to develop and manage the national education policy for educational assessment and quality assurance, and establish policies, standards, and guidelines relevant to assessment.

System assessment under the K to 12 system uses both national and international large-scale assessments. For the period 2016–2024, the national assessments are:

1. Early Language, Literacy and Numeracy Assessment (ELLNA)
2. Early Grade Reading Assessment (EGRA)
3. Early Grade Mathematics Assessment (EGMA)
4. National Achievement Tests (NAT)

The international assessments are:

1. Programme for International Student Assessment (PISA)
2. Trends in International Mathematics and Science Study (TIMSS)
3. Progress in International Reading Literacy Study (PIRLS)
4. Southeast Asia Primary Learning Metric (SEA-PLM)

There are different timelines for each assessment. Annex 1 shows a summary table of these assessments and the details are articulated in Annex 2. Some of these assessments may be discontinued once relevant system-level evidence has been generated to inform policy and adjustments in programming. BEA personnel will be assigned as focal person/s for each assessment to ensure that the necessary steps/milestones are achieved on schedule.

Testing procedures specific to the different assessments are found in test manuals, which are released to relevant DepEd personnel. Section 13 of DepEd Order No. 55, s. 2016 (Policy Guidelines on the National Assessment of Student Learning in the K to 12 Basic Education Program) discusses breaches in security and their corresponding sanctions.

SECTION 5: Assessment Data Utilization

The wealth of assessment data derived from internal and external assessments shall be used in the planning, monitoring, and evaluation (M&E) cycles of the department. Maximum use of data will be ensured by using system assessment data as critical input for decision-making processes of various committees across DepEd's levels of governance (i.e., DepEd Central Office [CO] Executive Committee, Program Committee, and the Regional and Division Management Committees).

It is important to note that to be able to benefit all learners, the results of system performance assessment must connect with program delivery. To meaningfully utilize the data generated in this policy, field offices may analyze school-, division-, or regional-level data in relation to system-level data. This will help them provide relevant technical assistance to schools in the preparation of programs that address learning needs. School improvement plans that directly address teaching and learning improvement concerns in the school should always be based on insights gained from studying data.

BEA shall manage test implementation procedures, and dissemination and utilization of assessment data following provisions in DepEd Order No. 55, s. 2016 (Policy Guidelines on the National Assessment of Student Learning in the K to 12 Basic Education Program).

However, ELLNA and NAT will be administered to the universal population every three years starting 2018 to provide large-scale data and micro- or school-level monitoring of achievement, and to provide balance between the classroom-based assessment and the system-wide assessment.

This amends the relevant provisions of DepEd Order 55, s. 2016.

SECTION 6. Generating Social Acceptance in Participating in International Large-Scale Assessments (ILSAs)

Assessment is one of the least understood processes in education. It is important for the faculty, staff, and students of the DepEd to understand that assessment information is the basis of policy formulation. To address this lack of appreciation for assessment activities and the resulting information generated by these, this policy directs all DepEd offices to organize advocacy activities that will lead to the understanding and acceptance of, and support for participation in national and international large-scale assessments among teachers, administrative personnel, students, and education stakeholders. In addition, the Department must ensure that the assessment process is conducted judiciously wherein learners are briefed prior to assessment, debriefed right after taking the tests, and given a chance to appreciate the results when these are released. To ensure this, the following shall be done:

1. The Communications Unit of the DepEd will spearhead the planning and implementation of the internal and external communications strategies for this purpose. The information officers of each region will assist in disseminating the correct information about system assessment.
2. The Curriculum and Instruction units across the Department will foster confidence among teachers and students about the assessment process to be undertaken. The following measures shall be undertaken:
 - a. BEA shall also issue the communications program to generate social acceptance and support for the education assessments, and provide technical assistance that will help teachers construct summative assessments.
 - b. The BCD shall promote content knowledge and pedagogical competencies among teachers and enrich teachers' appreciation of student performance through training in formative assessment processes, and provide emphasis on projects that require the application of literacy, numeracy, scientific, and ICT skills.

- c. The BLD shall improve instructional supervision by school heads, master teachers and education supervisors, and provide materials for use by the school-based learning action cells.
 - d. The National Educators Academy of the Philippines (NEAP) will enhance the capability of the regional information officers and the QAD on system assessment.
 - e. The BLR will provide activity sheets for learners through the LR Portal.
 - f. The Teacher Education Council (TEC) will integrate system assessment into its TIP.
3. Equally important to the successful conduct of system performance evaluation is students' understanding of their role in the process. Therefore, using developmentally appropriate methods, field offices and schools are directed to:
- a. conduct orientation activities for learners explaining to them the relationship between their performance on the assessments and its effect on curriculum policies and assessment standards. In these activities, students should be able to express their anxieties and aspirations about being the country's representatives in these large-scale assessments.
 - b. conduct a post-assessment debriefing session that will allow students to share their experience.
 - c. inform the learners about the results and their implications on the educational system.

SECTION 7. Monitoring and Evaluation

The monitoring and evaluation of the conduct of the system assessment shall be delimited as a function mainly of the DepED Central Office with BEA as lead office. The latter shall articulate the roles, functions, and accountabilities of DepED CO bureaus and services involved in carrying out an integrative approach to system assessment. This articulation should include the interface of BEA with other bureaus in the Curriculum and Instruction (CI) strand, and other relevant offices in the ROs and SDOs in managing system-related assessments.

Hence, to achieve success and standards in this system-wide assessment, there should be alignment or coherence of understanding in terms of curriculum, instruction, assessment, policies and practices among and across various levels of implementation (national, region, division, district, school levels).

Curriculum and Instruction (CI) Strand

Bureau of Curriculum Development (BCD)

1. Coordinates regularly with BEA for assessment results as inputs to curriculum planning and development.

2. Utilizes assessment results to ensure that the curriculum is regularly viewed/enhanced in order to provide clear knowledge, understanding, and instruction on various learning areas.
3. Coordinates regularly with the Bureau of Learning Delivery (BLD) to ensure that the curriculum is implemented effectively and efficiently.

Bureau of Learning Delivery (BLD)

1. Develops a wide range of instructional approaches and strategies that are assessment driven.
2. Coordinates with BEA for assessment results as inputs to improving instructional practices.
3. Designs a teacher training program based on assessment results.

Bureau of Education Assessment (BEA)

1. Ensures effective implementation of assessment programs in strict compliance to the standardized assessment guidelines and procedures.
2. Provides assessment results to BCD, BLD, and other bureaus as baselines in reviewing/reconstructing/evaluating assessment mechanism and delivery system.
3. Provides relevant, credible, and evidence-based research findings and recommendations to CI bureaus.
4. Conducts needs assessment through educational researches to address learning gaps.

Bureau of Learning Resources (BLR)

1. Develops learning materials based on assessment outcomes.
2. Designs instructional materials appropriate to students' learning needs.
3. Ensures that learning resources are available, sufficient, and are utilized in the school.

National Educators Academy of the Philippines (NEAP)

1. Evaluates the relevance of training programs in improving management, supervisory and instructional practices.
2. Designs seminars, trainings and workshops to keep the education practices abreast with the current trends in education/international market for continuous development.
3. Evaluates education managers' qualification and experiences as inputs to designing training programs.
4. Evaluates the quality of school-based management.
5. Aligns teacher preparation and continuous professional development.

Other support offices:

1. Provide inputs in policy development, plan formulation, and program/project development based on performance indicators/research findings and recommendations.
2. Monitor management and utilization of government funds.
3. Provide holistic assessment of teacher performance (pre-/in-service).
4. Provide direction in evaluating performance of the Bureau/Office personnel.
5. Design needs-based training programs for nonteaching personnel.

SECTION 8. Effectivity

These guidelines will remain in force, unless sooner repealed, amended, or rescinded. All existing orders and memoranda that are inconsistent with this Order are rescinded.

SECTION 9. References

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ANNEX 2. System Assessments

This section elaborates on the assessments per key stage, at the national and international levels, which can generate data for system-level assessment. For the national assessments, BEA, in close collaboration with the BCD and BLD, manages all assessments. Details on the international large-scale assessments currently being implemented and participated in by different countries are also discussed in this section. These external assessments are managed by private organizations, i.e., the International Association for the Evaluation of Educational Achievement (IEA) for Trends in International Mathematics and Science Study (TIMSS) or the education arm of multilateral institutions like the Organisation for Economic Co-operation and Development (OECD) for Programme for International Student Assessment (PISA). International Large-Scale Assessments (ILSAs) entail significant investments of human and financial resources, thus Philippine participation is rationalized along the phased implementation of the K to 12 program.

I. Key Stage 1: Kindergarten to Grade 3

A. National

There are three major assessment tools in the K-3 foundational stage, ELLNA at the end of Grade 3, and EGRA and EGMA from Kinder to Grade 3. They were borne out of the implementation of the Mother Tongue-Based Multilingual Education (MTB-MLE) that was first implemented in school year 2010–2011. EGRA and EGMA aim to track progress of learning or monitor the development of early literacy and numeracy over time (from Kinder to Grade 3) at a general, noncurricular level. They have been used to monitor the implementation of and the effects of the MTB-MLE program using student learning outcomes as proxy indicator for system activity at the K to 3 stage. These two assessments are based on the precept that medium of teaching and learning should be the language of assessment.

1. Early Language, Literacy, and Numeracy Assessment (ELLNA)

The K to 3 exit assessment is designed to:

- a. determine if learners are meeting Grade 3 learning standards
- b. analyze patterns in language development together with other language, literacy, and numeracy assessments to develop appropriate intervention programs
- c. formulate evidence-based policies and plans for Mother Tongue Based-Multilingual Education (MTB-MLE) instructional practices and learning environment provisions that impact learning outcomes

- d. improve MTB-MLE instruction
- e. identify teacher training needs
- f. initiate and conduct research on MTB-MLE instructional practices and learning environment provisions that impact student learning outcomes

ELLNA assesses early language, literacy, and numeracy in 19 languages, namely, Akeanon/Akianon, Bikol, Chavacano/Chabacano, Hiligaynon, Ibanag/Ybanag, Ilokano/Iloko, Ivatan, Kapampangan, Kinaray-a, Maguindanaon, Maranao, Pangasinan/Pangasinense, Sambal, Sinugbuanong Binisaya/Cebuano, Surigaonon, Tagalog, Tausug, Waray and Yakan. It covers the following essential skills:

- a. Language and Literacy
 - i. Mechanical Component
 - 1. Alphabet Knowledge
 - 2. Phonics and Word Reading
 - 3. Spelling
 - ii. Meaning Component
 - 1. Book and Print Knowledge
 - 2. Vocabulary
 - 3. Grammar
 - 4. Reading Comprehension
 - 5. Listening Comprehension
 - 6. Study Skills
- b. Numeracy
 - i. Counting
 - ii. Estimating
 - iii. Calculating
 - iv. Measuring
 - v. Problem solving

Other languages with approved working orthographies may be included in DepEd's roster of national assessments as per decision of the bureaus under the CI strand of the Department.

ELLNA shall be administered to all Grade 4 learners from the schools to be sampled (stratified random sampling representing all types of schools and all mother tongue languages in the division and region) three weeks after the first day of class. The data processing takes approximately three months.

2. Early Grades Reading Assessment (EGRA)

EGRA is an individually administered oral assessment that aims to assess foundational literacy skills of children in the early grades, which DepEd adapted following international standards and guidelines (DepEd Order 57, s. 2015).

The sampling design for EGRA in the Philippines uses multistage sampling. Divisions are selected purposively; only divisions using the Mother Tongue as medium of instruction (MOI) are included in the sampling framework. Moreover, schools that do not use MT as the MOI and those that are situated in areas deemed to be unsafe are also excluded.

EGRA is administered by a trained assessor to a proportionate stratified random sample of learners in a particular grade level who use the selected Mother Tongue as the medium of teaching and learning. EGRA is administered in five languages in selected regions: Iloko (CAR), Bikol (Region 5), and Waray (Region 8), Sinugbuanong Binisaya (CARAGA), and Chavacano (Region 9).

It covers the following literacy skills: book and print knowledge, letter name knowledge, letter sound knowledge, initial sound discrimination, familiar word reading, nonword reading, oral reading fluency passage, oral reading comprehension, listening comprehension, and dictation.

3. Early Grades Mathematics Assessment (EGMA)

EGMA is an individually administered oral test that aims to measure the primary numeracy and mathematics skills of children in the early grades. It was adapted by the DepEd following international standards and guidelines (DepEd Order 57, s. 2015).

The sampling design for EGMA in the Philippines is the same with EGRA. EGMA is administered by a trained assessor to a proportionate stratified random sample of learners in a particular grade level who use the selected Mother Tongue as the MOI. The current EGRA and EGMA testing design tracks the same cohort (identified through sampling) across the grade levels. The tests are administered at the beginning of the school year. Data processing takes approximately three months, with results disseminated in three months.

It is designed to measure the student's foundation skills in numeracy and mathematics in the early grades.

EGMA is administered in seven languages: Iloko (CAR), Bikol (Region 5), Sinugbuanong Binisaya (CARAGA), Waray (Region 8), Hiligaynon (Region

6), Maguindanaon (ARMM), and Chavacano (Region 9). It covers the following numeracy skills: oral counting, rational counting, number identification, number discrimination, missing-number identification, word problem solving, addition and subtraction, geometric pattern completion, and geometric visualization

Literacy and numeracy skills may be assessed by testing one grade level per school year in order to compare results across grade levels through time. Two cycles may be done to evaluate MTB-MLE implementation over the years. DepEd is currently implementing cycle 1, which started in SY 2015–2016 testing Grade 1 learners. For SY 2018–2019, Kinder may be included in the cycle if approved.

B. International

There are currently no large-scale international assessments for learners in this key stage, Kinder to Grade 3.

II. Key Stage 2: Grades 4 to 6

A. National

1. National Achievement Test (NAT)

There is only one national assessment for this key stage, the NAT for Grade 6. This assessment covers 21st-century skills (Information, Media and Technology Skills, Learning and Innovation Skills, Communication Skills, and Life and Career Skills) using learning areas as content (English, Science, Mathematics, Filipino, and *Araling Panlipunan*). Generally, the NAT-Grade 6 results are utilized to:

- a. determine if learners are meeting the learning standards
- b. help provide information to improve instructional practices
- c. assess/evaluate effectiveness and efficiency of education service delivery using learning outcomes as indicators
- d. provide empirical information as bases for curriculum, learning delivery, assessment and policy reviews, and policy formulation

The NAT-Grade 6 shall be administered to Grade 7 learners three weeks after the first day of classes. As per DO No. 55, s. 2016, a stratified random sample shall be drawn annually, representing all types of schools in the district, division, and regions. All regions, divisions, and districts shall be given the test but schools shall be sampled. All learners in the school to be

sampled shall take the test. The data processing takes approximately three (3) months.

B. International

1. Southeast Asia Primary Learning Metric (SEA-PLM)

The Southeast Asia Primary Learning Metric (SEA-PLM) is an initiative run by the Southeast Asian Ministers of Education Organisation (SEAMEO). The Philippines was part of Phase I study and acted as observers in the later phase, which was designed to measure the learning outcomes of primary school children (Grade 5 learners in particular, regardless of age). The Philippines will participate in the first run of the test in SY 2017–2018. A field trial is tentatively scheduled on November 2017.

The test aims to measure how Filipino learners fare versus other Southeast Asian learners, and to monitor and evaluate the success of implementation of reading, writing, mathematics, and global citizenship/civics education in the K to 12 system.

The key domains of the assessment are reading, writing, mathematics, and global citizenship/civics education. The language of assessment shall be in English, except for global citizenship wherein the Philippines has the option to translate it into local language (Filipino).

2. Trends in International Mathematics and Science Study (TIMSS)

TIMSS is an international assessment of mathematics and science that was first conducted in 1995. TIMSS measures the mathematics and science ability of Grade 4 and Grade 8 students. The International Association for the Evaluation of Educational Achievement (IEA), an independent international cooperative of national research institutes and government agencies, runs the assessment every four years.

There are two versions of TIMSS available to students in this age range, TIMSS and *TIMSS Numeracy*. They are both designed to provide information that will assist countries to monitor and evaluate the success of their mathematics and science education across time and across grades. The intention is to improve teaching and learning of mathematics and science by providing information about student achievement in relation to different types of curriculums, instructional practices, and schools.

TIMSS implements a two-stage random sample design in which a sample of schools is drawn in the first stage and one or more intact classes of students are selected from each of the sampled schools in the second stage. A minimum participation rate of 50 percent of schools from the original sample of schools is required.

The TIMSS assessment is designed to test students in Grade 4 and Grade 8. Countries can assess Grade 4 or Grade 8 or both. The student's overall achievement in mathematics and science is reported across four international benchmarks (advanced, high, medium, and low); by major content domains (i.e., number, algebra, and geometry in mathematics; earth science, biology, and chemistry in science); and by cognitive domains (knowing, applying, and reasoning).

TIMSS Numeracy assesses fundamental mathematical knowledge, procedures, and problem solving strategies that are prerequisites for success on TIMSS Fourth Grade. The test items are similar to TIMSS Fourth Grade items, but the numbers are simpler and the procedures are more straightforward. *TIMSS Numeracy* is an option for a less difficult version of TIMSS Mathematics. The assessment is designed to test mathematical knowledge and skills towards the end of the primary or elementary school cycle and can be administered to students in Grades 4 to 6.

3. Progress in International Reading Literacy Study (PIRLS)

PIRLS is a reading comprehension assessment conducted at five-year intervals by the IEA. It is directed by the TIMSS & PIRLS International Study Centre located at Boston College (USA) in cooperation with the IEA Secretariat in Amsterdam (the Netherlands) and IEA's Data Processing and Research Centre in Hamburg (Germany).

PIRLS provides internationally comparable data on how well children read after four years of primary school. It collects extensive information about home support for literacy, curriculum and curriculum implementation, instructional practices, and school resources in each participating country. PIRLS assesses reading literacy of students in their fourth year of formal schooling.

PIRLS may be administered to students in Grades 4, 5, or 6. Like *TIMSS Numeracy*, PIRLS Literacy provides a more simplistic version of the test; the reading passages in it are shorter, with easier vocabulary and syntax.

III. Key Stage 3: Grades 7 to 10

A. National

1. National Achievement Test (NAT)

For this key stage, only one national assessment can provide data at the system level, the national achievement test at Grade 10. Like the National Achievement Test (NAT) at Grade 6, this assessment covers 21st-century skills (Information, Media and Technology Skills, Learning and Innovation Skills, Communication Skills, and Life and Career Skills) using learning areas as content (English, Science, Mathematics, Filipino, and *Araling Panlipunan*.) Generally, the Grade 10 NAT results are utilized to:

- a. determine if learners are meeting the learning standards
- b. help provide information to improve instructional practices
- c. assess/evaluate effectiveness and efficiency of education service delivery using learning outcomes as indicators
- d. provide empirical information as bases for curriculum, learning delivery, assessment and policy reviews, and policy formulation

Annually, the NAT is administered three weeks after the first day of classes and taken by all Grade 11 learners in schools identified through stratified random sampling. The data processing takes approximately three months. Sampling procedures for the region, division, district, and school are the same with NAT-Grade 6.

B. International

1. Programme for International Student Assessment (PISA)

The goal of the Programme for International Student Assessment (PISA) is to evaluate education systems worldwide by testing the skills and knowledge of 15-year-old students, who are approaching the end of their compulsory education. PISA tests how students can apply their knowledge to real-life situations and problems, rather than testing their knowledge recall.

Every three years, participating countries test their 15-year-olds in the three main assessment domains: Reading, Mathematics, and Science. For each testing round there is a focus on one particular domain. In 2015 the focus is Scientific Literacy, and in 2018 the focus will be Reading Literacy. Additional domains are assessed from time to time, such as an assessment of creative problem solving, financial literacy (in 2012), and collaborative

problem solving (2015). For the 2018 PISA-cycle, Global Competence will be introduced as a new domain to be assessed.

In addition, PISA also offers optional assessments. For 2018, countries participating in Computer-Based Assessment have the option to test for Financial Literacy, ICT Familiarity, Educational Career, Well-Being, and Teacher Questionnaires. Longitudinally, countries can compare their students' performance over time. A different cohort of students is tested every three years, such that data cannot be analyzed at the student level.

2. Trends in International Mathematics and Science Study (TIMSS)

The TIMSS for Grade 8 may be administered simultaneously in the same year with TIMSS for Grade 4. The participating country also has the option to administer the test to the same cohort of learners in different cycles; the Grade 4 learners in SY 2018–2019 for instance, will be the same Grade 8 learners in SY 2022–2023. The test coverage and sampling procedures in TIMSS-Grade 8 are the same with TIMSS-Grade 4.

IV. Key Stage 4: Grades 11 to 12

A. National

1. National Achievement Test (NAT)

At the final stage of basic education, the National Achievement Test (NAT) at Grade 12 can provide system assessment data. Like the national achievement tests at Grades 6 and 10, the NAT-Grade 12 aims to:

- a. determine if learners are meeting the learning standards
- b. help provide information to improve instructional practices
- c. assess/evaluate effectiveness and efficiency of education service delivery using learning outcomes as indicators
- d. provide empirical information as bases for curriculum, learning delivery, assessment and policy reviews, and policy formulation

This assessment covers 21st-century skills and the core Senior High School learning areas of Languages, Humanities, Communication, Mathematics, Science, Social Science, and Philosophy.

NAT-Grade 12 will be administered annually on the third week of the second semester through stratified random sampling. All types of schools in the district, division, and region shall be represented.

B. International

1. Trends in International Mathematics and Science Study (TIMSS) Advanced

Only one international assessment is relevant for students in Grade 12. *TIMSS Advanced*, a separate version of TIMSS, is available for testing achievement in advanced mathematics and physics among students completing senior secondary level and entering tertiary education.

TIMSS Advanced may also be administered to students in either the final year of secondary school or the first year of tertiary education immediately following their graduation from secondary school. The assessment is designed to be taken by the most advanced students who are planning to take further studies in physics or mathematics at the university level. In addition, data are collected on curriculum emphasis, technology use, and teacher preparation and training.

The *TIMSS Advanced* assessment comprises written tests in advanced mathematics and physics together with sets of questionnaires to gather information on educational and social contexts.