

GEM GLOBAL EDUCATION
MONITORING
CENTRE

ASSESSMENT
GEMS SERIES

No. 19

June 2021

The Southeast Asia Primary Learning Metrics Program

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Assessment GEMS Series No. 19: The Southeast Asia Primary Learning Metrics Program
Australian Council for Educational Research Limited © 2021

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ISSN 2203-9406 (online)



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Recommended citation

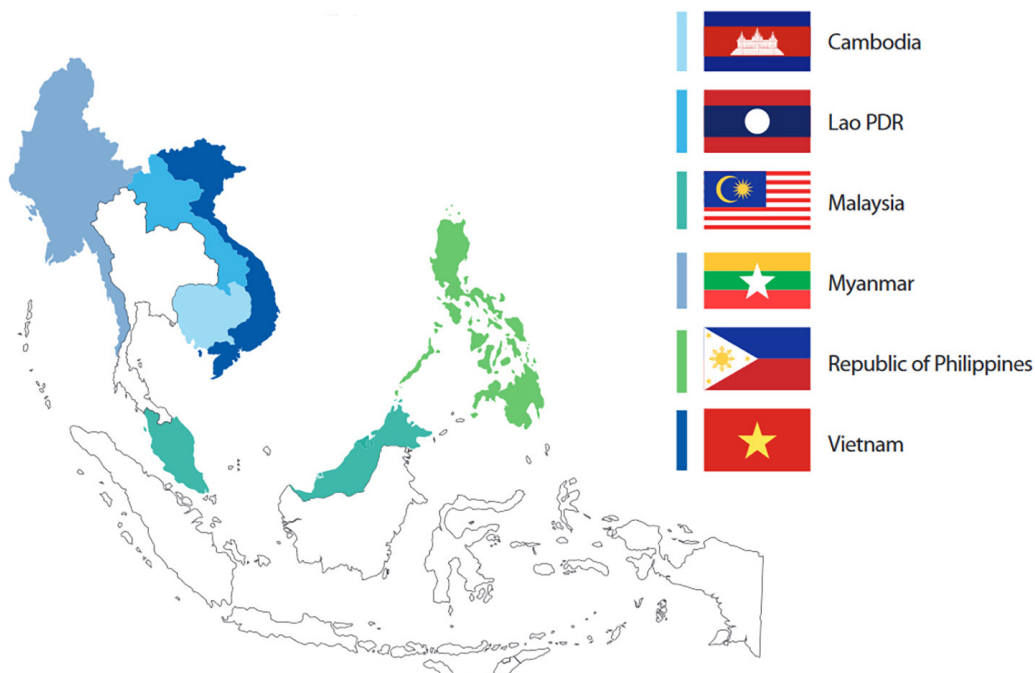
The Australian Council for Educational Research. (2021). *The Southeast Asia Primary Learning Metrics Program* (Assessment GEMS Series No. 19)

Acknowledgements

This publication has been funded by the Australian Government through the Department of Foreign Affairs and Trade, and the Australian Council for Educational Research Ltd. The views expressed in this publication are the author's alone and are not necessarily the views of the Australian Government.

Origins and context

The Southeast Asia Primary Learning Metrics Program (SEA-PLM) is a regional assessment of Grade 5 students in six Southeast Asian countries. SEA-PLM was initiated in 2012 by the Southeast Asian Ministers of Education Association (SEAMEO) and the United Nations Children's Fund (UNICEF). The first main cycle of SEA-PLM was implemented in 2019, with future cycles intended. All member countries of SEAMEO can choose to participate in SEA-PLM. The first six participating countries were: Cambodia, Lao PDR, Malaysia, Myanmar, Philippines and Viet Nam.



This image has been taken from (UNICEF & SEAMEO, 2019b)

Figure 1: Participating countries of SEA-PLM 2019

Purpose

SEA-PLM aims to provide participating countries an accurate understanding of the status of student learning. This can inform educational reforms to improve education systems and educational outcomes, relating to both achievement and equity. These reforms may relate to teacher training, curriculum implementation and school management (UNICEF & SEAMEO, 2019b).

SEA-PLM has three specific objectives:

1. To generate and analyse assessment data at regional, national and sub-national levels;
2. To utilise assessment data for education improvement and more equitable learning outcomes; and
3. To strengthen ASEAN integration in terms of approaches to assessment (SEAMEO & UNICEF, 2019).

Developing the capacity of the governments from participating countries to undertake large-scale assessments is fundamental to SEA-PLM. Compared to some other international assessments, participants in SEA-PLM receive substantial technical support. For example, in the inaugural cycle of SEA-PLM, there were up to six in-country visits per country, where advice and skills workshops were provided by ACER's technical experts. By participating in SEA-PLM, participating countries' capacity to develop and undertake national assessments is developed (UNICEF & SEAMEO, 2019b).

Measurement objectives

SEA-PLM measures curricula and cross-curricula knowledge, skills and understanding in the domains of mathematics, reading, writing and global citizenship. These domains are framed as 'literacies' to reflect that proficiency requires the application of knowledge in a variety of relevant contexts (UNICEF & SEAMEO, 2017).

Learning domains

Mathematical literacy

The SEA-PLM understanding of mathematical literacy focusses on certain skills and processes to solve mathematical problems across a variety of contexts. The SEA-PLM working definition of mathematical literacy is:

"A person's capacity, given a problem in a context that is of interest or importance to them to translate the problem into a suitable mathematical formulation, to apply mathematical knowledge and skills to find a solution, and to interpret the mathematical results in relation to the context and to review the merits or limitations of those results," (UNICEF & SEAMEO, 2017, p. 13).

Based on this definition, the three components that make up the mathematical literacy framework are:

- Content: the mathematical knowledge and skills required to find a mathematical solution
- Process: the actions required to solve the problem
- Context: the situation in which the problem to be solved has arisen (UNICEF & SEAMEO, 2017)

Reading literacy

For SEA-PLM, reading literacy includes both the more basic cognitive skills related to decoding symbols, as well as higher level skills enabling the interpretation of texts that can be used to reappraise one's knowledge of the world. The SEA-PLM working definition of reading literacy is:

"Understanding, using and responding to a range of written texts, in order to meet personal, societal, economic and civic needs," (UNICEF & SEAMEO, 2017, p. 21).

Writing literacy

The SEA-PLM assessment applies an understanding of writing literacy to include basic skills, such as copying or forming words, as well as more sophisticated skills, such as generating and organising ideas.

The working definition of writing literacy is:

"Constructing meaning by generating a range of written texts to express oneself and communicate with others, in order to meet personal, societal, economic and civic needs," (UNICEF & SEAMEO, 2017, p. 30).

The three components that constitute the SEA-PLM reading and writing literacies framework are:

- Content: the text variables (text format and text type)
- Context: the situation to which texts are relevant
- Process: drawing on knowledge of how language works and applying skills (UNICEF & SEAMEO, 2017).

SEA-PLM offers a unique opportunity to gather comparative data as it is the only large-scale assessment to measure writing across languages and scripts (UNICEF & SEAMEO, 2019b).

The mathematics, reading and writing learning domains, with their components are presented in Table 1.

Table 1: Learning domains for SEA-PLM 2019

Learning domain	Component		
	Content	Process	Context
Mathematics literacy	Number and algebra	Translate	Personal
	Measurement and geometry	Apply	Local
	Chance and data	Interpret and review	Wider world
			Intra-mathematical
Reading literacy	Text format – continuous	Locate	Personal
	Text format – non-continuous	Interpret	Local
	Text format – composite	Reflect	Wider world
	Text type – narrative	Recognise word	
	Text type – descriptive		
	Text type – persuasive		
	Text type – instructional		
	Text type – transactional		
	Text type – label		
Writing literacy	Text type – narrative	Generate ideas	Personal
	Text type – descriptive	Control structure	Local
	Text type – persuasive	Manage coherence	Wider world
	Text type – instructional	Use vocabulary	
	Text type – transactional	Control syntax and grammar	
	Text type – label	Other language-specific features	

Global citizenship

SEA-PLM is the only regional assessment to measure global citizenship (UNICEF & SEAMEO, 2019b). Global citizenship relates to students’ sense of belonging, self-awareness and empathy with others. It involves:

“A person’s attitude towards appreciating and understanding the interconnectedness of all life on the planet, to act and relate to others with this understanding to make the world a more peaceful, just, safe and sustainable place,” (UNICEF & SEAMEO, 2019a).

This understanding of global citizenship is based on a curriculum review and encompasses core values of SEAMEO members.

Contextual information

Contextual questionnaires are administered to collect information that enables an understanding of the relationship between background factors with student performance. Four contextual questionnaires are administered: student, parent, teacher, and head teacher. The student and parent questionnaires collect a range of background data, including: student gender, home language, pre-school attendance, and socio-economic status. Furthermore, the student questionnaire collects data about students’ activities and interest in learning domains, as well as perceptions of their teacher and issues related to global citizenship (UNICEF & SEAMEO, 2019b).

The data collected by the teacher and head teacher questionnaires elucidates school characteristics that may help explain student performance. The data includes: school size, school location, school type, training and qualifications of teachers, number of teachers and physical resources. Identifying associations between the school context and student performance can help to inform education reforms.

Target population and sampling methodology

SEA-PLM assesses students in Grade 5, or more precisely, children who are undertaking their fifth year of schooling from the first year of ISCED Level 1 (UNICEF & SEAMEO, 2020).

A nationally representative sample of the Grade 5 population is drawn, using a two-stage methodology. First, schools were selected to participate based on probability proportional to the number of the target population, with a minimum of 150 schools selected in each country. Second, from each sampled school, one Grade 5 class was randomly selected, with all children in that class asked to participate (UNICEF & SEAMEO, 2020).

Assessment administration

The administration of SEA-PLM is overseen by the Regional Steering Committee, which is constituted by representatives from UNICEF, SEAMEO, participating countries and non-participating Association of Southeast Asian Nations (ASEAN) countries as honorary members. The Secretariat and Technical Support team report to the Regional Steering Committee, who coordinate the operations of the initiative, and provide technical expertise respectively. Each participating country has a national steering committee, to oversee national implementation and funding and a national technical team to implement the initiative (SEAMEO & UNICEF, 2019). ACER is the lead technical partner of SEA-PLM and works alongside the national steering committees, and the Secretariat and participates as required in the Regional Steering Committee meetings.

SEA-PLM is a paper- and pen-based assessment. Students have one hour to undertake the assessment, which contains both multiple choice and open-ended questions. A rotated booklet design is applied, involving 18 cognitive booklets, so that each sampled student only completes a sample of tasks from two of the three domains. The amalgamation of individual results then provides a full picture of Grade 5 proficiency. Each country administers the assessment in their language(s) of instruction, and is jointly responsible with ACER, for training government staff, school coordinators and test administrators. To assist countries, guidelines and instructions relating to each stage of the assessment process are provided by technical advisers, who also assist with quality control and ensuring that the standards are applied consistently (SEAMEO & UNICEF, 2019).

Reporting and dissemination

The SEA-PLM 2019 Main Regional Report presents findings about learning outcomes, resources and practices of each participating country. These countries can choose to provide sub-national analysis, such as comparing the learning outcomes of regions within a country, in their own national reports.

Learning outcomes in mathematics, reading and writing are presented on a proficiency scale. Proficiency scales are divided into bands, with each band reflecting what children can do. The development of a common set of proficiency scales for SEA-PLM enables the progress of student learning to be monitored across contexts and over time.

The SEA-PLM proficiency measures enable participating countries to report student progress towards the United Nations Sustainable Development Goals (UN SDGs). The main regional report presents the percentage of children from each country who have met the minimum learning standards in reading and mathematics, based on these international benchmarks (UNICEF & SEAMEO, 2020).

Subsequent to presenting the proficiency results, the main regional report outlines how contextual factors relate to learning outcomes. Contextual factors that are reported on include, but are not limited to the following:

- Gender
- Socioeconomic status
- School resources
- Teacher training
- Parental engagement in children's learning
- School readiness
- Children's attitudes

The report compares children's achievement between the bottom and top quartiles. In doing so, it reveals the extent that children's backgrounds, as well as their home and school environments, are associated with national average reading, writing and mathematics literacy outcomes. (UNICEF & SEAMEO, 2020)

Findings related to global citizenship are reported based on what proportion of participants from each country agreed with various statements. Topics that are covered include:

- Children's perceptions of global citizenship education;
- Children's attitudes about societal issues, environmental sustainability and identity;
- Children's participation in global citizenship related activities; and
- Teacher's perceptions of global citizenship education.

The summary findings with emerging themes are also presented (UNICEF & SEAMEO, 2020).

Finally, the main regional report provides recommendations on how children's learning can be advanced. The report is intended to be understood by education stakeholders from the participating countries and the results used to influence education reform and progress (UNICEF & SEAMEO, 2019b).

The SEA-PLM 2019 regional report was launched on 1 December 2020. The event brought together ministers, high-level officials, and national representatives from participating countries, along with representatives from UNICEF, SEAMEO and ACER. The presence of high-level ministerial and government personnel from participating countries demonstrates their commitment to understanding the SEA-PLM results and driving educational reforms that address national learning gaps.

The findings of the report received widespread media coverage throughout Southeast Asia. The aim of this public outreach is to communicate the findings and recommendations of SEA-PLM and inform broader public discussion about how to improve educational achievement within the region (SEAMEO & UNICEF, 2020).

Following the report launch, a workshop was held with representatives from each participating country to understand their plans for using the SEA-PLM data to inform curriculum and policy, and ultimately, improve learning for all children. Additional activities are planned for 2021 to support countries to understand and use the data.

Influence

SEA-PLM plays an integral role in improving the learning outcomes of all children in Southeast Asia and provides the evidence to advocate for greater attention and resources to improve education systems. As well as enabling countries in Southeast Asia to gain invaluable insights into where children are at in their learning, it reinforces the importance of teachers, quality data and monitoring, and well-defined curricula.

Through technical and financial support from the Global Education Monitoring (GEM) Centre, a long-term partnership between ACER and the Australian Government's Department of Foreign Affairs and Trade (DFAT),

countries in Southeast Asia are now able to report progress towards UN SDG 4, quality education for all. Through the development of described proficiency scales in reading literacy, mathematical literacy and writing literacy for SEA-PLM, participating countries have been able to report the proportion of students meeting global minimum proficiency levels in reading and mathematics at the end of primary school (SDG 4.1).

The SEA-PLM 2019 Main Regional Report provides a set of policy recommendations to help address the learning gap. It strongly recommends an increase in access to early learning opportunities – in particular for disadvantaged children – improving school support, teacher education and policies, and increasing alignment of curriculum, assessment and pedagogies.

The recommendations include improving the capacity of governments to use data to monitor and better understand where children are at in their learning. It also encourages the use of SEA-PLM 2019 data and invites all countries in Southeast Asia to participate in SEA-PLM 2023.

A significant impact of SEA-PLM has been developing the capacity of participating countries to undertake and utilise large-scale assessments. Participating countries are currently preparing their own country reports, with technical support. This technical support also includes further capacity development activities to enable them to use the data to enhance learning outcomes and inform policymaking. Finally, SEA-PLM has facilitated regional collaboration through countries exchanging knowledge and working together to advance common goals related to assessing and improving learning outcomes. This will ultimately help to strengthen education systems and bridge the learning gap in the region.

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