SEA-PLM 2019
Main National Report

Grade 5 Students' Learning in Cambodia

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Foreword

The education sector has come to a new stage of development, encompassing a broad and ambitious scope covering a wide range of equitable and inclusive education issues; lifelong learning and skills in order for children and young people to live harmoniously and successfully in the 21st century. Furthermore, education is being delivered in Cambodia in the context of rapid social and economic change, market demand and a competitive world of work.

The Ministry of Education Youth and Sport has designed and implemented many programs to support education priorities as outlined in the Education Strategic Plan 2019-2023. These efforts are also assisting in alignment with Cambodia's Sustainable Development Goal 4 on Education 2030 Roadmap and are in line with Cambodia's vision to become an upper-middle income country by 2030 and a high-income country by 2050. Therefore, the optimal goal of the Ministry of Education Youth and Sport is to strengthen the education system for the country, ensuring the system delivers equitable and excellent outcomes for all children and young people. Teaching and learning at the grassroots level is the main focus to support and inform policy development and service provision.

To achieve and align this purpose, Ministry of Education Youth and Sport, as a member of the Southeast Asian Ministries of Education Organization (SEAMEO) participated in the Southeast Asia Primary Learning Metric (SEA-PLM) program. This learning assessment initiative for the region aims at "providing the members of SEAMEO countries with an enhanced understanding of factors affecting learning achievement in primary education and to support them to take actions to ensure that all children achieve meaningful learning outcomes". The SEA-PLM is a curriculum-based assessment, measuring reading, writing and mathematics, as well as Global Citizenship (GC), which is one of the domains outlined in UNESCO's framework on transversal competencies, also known as 21st-century skills. Some sub-strand skills and concepts highlighted in the GC also aligned with those in the local life skills program introduced to primary and secondary education levels, which MoEYS adopted from the UNICEF MENA framework on life skills and citizenship education.

In this SEA-PLM national report, relevant information and Cambodian data of SEA-PLM 2019 was analyzed by a technical team of the Education Quality Assurance Department (EQAD), Ministry of Education, Youth and Sport. The purpose of the national report is to identify what students can do based on knowledge and skills taught, as well as how well they can extrapolate from what they have acquired and apply it in different contextual settings. In addition, the information about students' capacities associated with these three domains is described in relevant questionnaire items related to students' background and global citizenship. This information helps us witness the relationship between student achievement and its contextual potential factors, such as students' and homes' characteristics, teachers' and classroom characteristics, schools and context characteristics.

The SEA-PLM 2019 is also looking at the outcomes related to the GC that mainly focuses on students' attitudes and behaviors. That is, it has enabled deeper exploration of students' equity in learning GC-related issues at schools (gender and socio-economic status).

Moreover, this SEA-PLM national report can be used for the benefit of the education sector and the children within the education system. The report contributes sound data, information and analysis for work undertaken to support the potential strategies and programs in the future, especially the policies of the Ministry of Education, Youth and Sport and the Government of Cambodia as a whole.

This report provides Cambodia with a platform for sharing lesson learned and experience pertaining to students' achievement, benchmarking Cambodian grade 5 students' achievement against the next cycles, as well as offering an opportunity to compare this achievement with other countries in the region, which is a valuable aspect for refining education in Cambodia.

The Ministry of Education, Youth and Sport intends to respond fully to the findings and messages contained in this report and to follow up the suggestions regarding effective interventions that are set out in the report. The effective interventions highlighted in this report include actions designed to:

- establish strong foundations for success and improving educational outcomes;
- improve the school environment;
- improve the quality of instruction;
- strengthen family and community support for education;
- optimize child-friendly policy and inspection system;
- improve school-based management (SBM);
- heighten application of concept-based approach and teaching methodology;
- strengthen the application of e-learning education

The results from SEA-PLM national findings will be disseminated widely to interested individuals, organizations and all stakeholders across the community since they play a very important role in contributing to the quality, equity and inclusiveness of education.
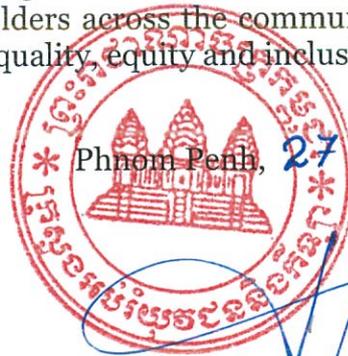
Phnom Penh, 27 December 2021

Dr. HANG CHUON NARON

Minister

Ministry of Education, Youth and Sport

Preface

The SEA-PLM 2019 national report is the first publication from the nationally representative study, in which Cambodia participated in 2019 with other countries in the ASEAN community. This national report unveils the learning achievements of our students in the SEA-PLM program.

The SEA-PLM 2019 national report describes the results achieved by our students related to reading, writing and mathematics, student characteristics, learning environments in schools and communities and students' attitudes and behaviours to GC in ways that allow for comparisons with other participating countries in the region. The data and analysis contained in this report will help our government and our educators identify the main challenges for education in Cambodia and inform the development of effective strategies and policies to address them.

Cambodia is one of six countries involved in the first round of SEA-PLM, which aims to allow participating countries to understand key factors that influence students' learning achievements in primary level, and to support them to take action to ensure that all children achieve meaningful learning outcomes. It also allows participating countries to build overarching capacity to improve their learning assessment systems and to contribute to SDG 4, especially SDG 4.1.1b on achieving relevant and effective learning outcomes by the end of primary school.

The SEA-PLM is indispensable, as it provides priceless experience and knowledge to MoEYS. For example, it offers an invaluable opportunity for MoEYS technical team members to develop knowledge and expertise to implement existing large-scale assessments, especially national assessments. In more specific terms, it contributes to capacity development on test administration procedures, data collection processes, data management, data analysis and report writing. This experience and knowledge encourage MoEYS to shape its existing assessments to meet regional or international standards.

Cambodia's participation in SEA-PLM would not have been possible without strong collaboration between MoEYS, the SEAMEO secretariat and the UNICEF East Asia Pacific Regional Office (EAPRO), as well as financial support from UNICEF Cambodia via the Capacity Development Partnership Fund. The Cambodia SEA-PLM team has committed time and energy to this work, with significant professionalism, to successfully produce such a high-quality report.

Education Quality Assurance Department

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Acronyms

ACER	Australian Council for Educational Research
ASEAN	Association of Southeast Asian Nations
CFS	Child-Friendly School
EAPRO	East Asia and Pacific Regional Office
EQAD	Education Quality Assurance Department
ICT	Information and Communications Technology
GC	Global Citizenship
MoEYS	The Ministry of Education, Youth and Sport
MENA	Middle East and North Africa
PISA	Program for International Student Assessment
PISA-D	Program for International Student Assessment for Development
SDG	Sustainable Development Goals
SEAMEO	Southeast Asian Ministers of Education Organization
SEA-PLM	Southeast Asia Primary Learning Metrics
UNICEF	United Nations Children's Fund

Executive Summary

Background

SEA-PLM is a curriculum-based, regional, large-scale assessment. The target sample is Grade 5 students and the main areas of assessment are reading, writing, mathematics and global citizenship (GC). SEA-PLM was initiated by the UNICEF East Asia Pacific Regional Office (UNICEF EAPRO), with technical support from the Australian Council for Educational Research (ACER). It covers the member countries of the Southeast Asian Ministers of Education Organization (SEAMEO).

The SEA-PLM main survey was rolled out in 2019 after the completion of field trials in the six participating countries (Cambodia, Laos PDR, Malaysia, Myanmar, the Philippines and Vietnam) between 2015 and 2018 to test all aspects of assessment tools, administration protocols, and appropriateness and functionality of the items.

In Cambodia, SEA-PLM was implemented by the Education Quality Assurance Department (EQAD) of MoEYS. EQAD is the institution responsible for conducting all sample-based learning assessments in Cambodia. EQAD's primary task is to measure the progression and development of education sectors and to monitor student learning achievement (MoEYS, 2019).

In this first cycle of SEA-PLM, in Cambodia 5,396 students (2,766 female), 380 teachers (185 female), 5,374 parents and 177 schools participated in the study.

Purpose of the report

The purpose of the national report is to measure the progress and development of the Cambodian education sector and monitor student learning achievement in primary level. Specifically, the purpose of the report is to establish what Grade 5 Cambodian students know and can do in relation to reading, writing and mathematics, and their attitudes and behaviours towards GC. This report also considers and compares factors identified as influential to educational outcomes, such as student, teacher and school characteristics. The specific purposes are to:

- Assess students' curriculum-based competence in reading, writing and mathematics
- Examine students' attitudes and behaviour towards GC in national and regional contexts
- Collect information related to the background and characteristics of students, families, teachers, schools, parents and communities to reflect on the country's education system
- Share lessons learned and recommendations among relevant departments, provincial offices of education, and especially schools and teachers to improve the quality of education.

Methodology

Similar to other large-scale assessments, such as the Program for International Student Assessment (PISA), SEA-PLM employed replicate weights as a means to account for the nested structure of the data (i.e. students nested in schools and schools nested in countries) when estimating standard errors. Particularly, a replication method known as 'Jackknife 2' was applied in SEA-PLM data analysis. Because of the rotated assessment design used in SEA-PLM, plausible values were computed to obtain consistent estimates of population characteristics (i.e. achievement scores).

For cognitive skill data, SEA-PLM data specialists decided to transform these scores onto an achievement scale with a mean of 300 scale score points and standard deviation 30 points, which

was better suited to reporting regional results. For scales constructed with data from the background questionnaires, the data specialists decided to transform the scale scores onto a scale with a mean of 50 and standard deviation of 10. The cognitive results of SEA-PLM are presented in two main forms: as average student achievement and as the proportion of students in different proficiency levels or bands.

Key Findings

The results from SEA-PLM are significant indicators for the education system in Cambodia, specifically at the primary education level. This addresses the suggestion from the international assessment, the Program for International Student Assessment for Development (PISA-D), that Cambodia needs to focus on lower education levels, particularly in primary education, in order to prepare students to perform better at the secondary school level. The analysis of the SEA-PLM 2019 results for Cambodia illustrated that:

Learning outcomes

- Among the three domains, Cambodian Grade 5 students achieved the highest average score in reading (290) followed by mathematics (289) and then writing (285). Cambodian students performed very similarly to those from the Philippines and Myanmar. Students from Vietnam and Malaysia are the two highest-scoring countries in the three domains.
- When compared to SDG 4 indicators, around two thirds of Grade 5 students in Cambodia met the minimum proficiency level for the end of lower primary education suggested by SDG 4.1.1a in both the reading and mathematics domains (76% and 64%, respectively). A significant proportion of Grade 5 Cambodian students met the minimum proficiency level for the end of primary education suggested by SDG 4.1.1b, in both reading and mathematics (11% and 19%, respectively).
- Looking at the results of the other SEA-PLM participating countries, Vietnam and Malaysia can be considered the best-performing countries, as the majority of students from these two countries were in the highest proficiency bands in each domain. Similarly, Vietnam and Malaysia had the largest proportion of Grade 5 students who met the minimum proficiency levels suggested by SDG 4.1.1a and SDG 4.1.1b.
- In relation to GC, between 38% and 69% of Cambodian Grade 5 students reported having learned at least 'some' topics related to global issues at school. The majority of students reported being concerned with a variety of global issues, and students who performed better in reading, writing and mathematics tended to be more concerned with GC issues as well.
- SEA-PLM results suggest that slightly more than 50% of Grade 5 students do not report having a strong Asian identity, whereas about two thirds were more likely to be aware of the importance of learning about GC-related topics. Consistently, the majority of Grade 5 students have a strong willingness to get involved in activities associated with civic behaviour, both in school and in the wider community.

Individual factors

- In terms of equity, Cambodian Grade 5 girl students outperformed Grade 5 boy students in reading, writing and mathematics, and those students who come from more socio-economically advantaged families outperformed their more disadvantaged peers.

- The results revealed that about 33% of Grade 5 students repeated Grade 1 at least once. When disaggregated by gender, the results indicated that boys reported a greater repetition rate than girls (35.4% vs 30.7%, respectively).
- Cambodian students who have never repeated class outperformed those who have repeated at least one class.
- About 41.6% of Grade 5 students reported that they did not attend preschool or kindergarten. More importantly, the students who did attend preschool for one year were more likely to perform better than those who did not attend preschool at all.
- Late enrolment still exists in the education system in Cambodia. About 19.4% of parents reported that they enrolled their children at age 7 years or older. Late enrolment and repetition seem to be the main causes of over age in Grade 5 students. Importantly, on average, students who were at the normative age for Grade 5 outperformed students who were under or over age.
- Other findings were that Cambodian Grade 5 students who have positive attitudes towards school tend to perform better than those who have negative attitudes towards school in the three domains. Students who have positive attitudes towards mathematics tend to perform better not only in mathematics but in the other two subjects as well.
- Parental engagement towards schooling was also identified as an important factor to explain the educational achievement of Cambodian students, since those students who reported that their parents had engaged more with their learning activities at home obtained, on average, higher scores than those who reported that their parents were less engaged in learning activities.

School factors

- Cambodian Grade 5 urban students outperformed rural students in reading, writing and mathematics. For geographic zones, students from Tonle Sap zone outperformed those from the other three zones, followed by those from the Plains, then those from the Mountainous region. The lowest performing students were from the Coastal zone in the three domains.
- Cambodian Grade 5 students from private schools outperformed those from public schools, with a difference of 25 points in reading, 23 in writing and 27 in mathematics.
- When crossing-referencing information from SEA-PLM with data from the Child-Friendly Schools (CFS) program, results suggest that Grade 5 students studying in advanced level CFS schools outperformed those studying in basic and medium level CFS schools.
- Almost all Grade 5 students had one Khmer and one mathematics textbook, while only 2% to 3% did not have textbooks at all, and another 2% to 3% had to share textbooks with their classmates.
- About 25% of students reported that their primary schools did not have a library.

Teacher/Classroom factors

- Between 55% and 80% of teachers considered student absenteeism, limited interest and lack of fundamental skills and knowledge were the most influential factors on student achievement. Around 45% of teachers thought that other factors, such as interruptions in class, poor student health, lack of sleep and hunger during lessons also influenced student achievement.

- Between 50% and 60% of students reported that teachers came to class late, were absent and had difficulties making students be quiet in class. These situations represented the main reasons for losing teaching and learning time.
- About 6% of Grade 5 teachers had completed primary school or a lower qualification, and about 57% had completed upper secondary school or technical vocational education. However, a considerable number of teachers (about 37%) reported holding a bachelor's degree or a master's degree.
- Most of the teachers reported that they did not receive any training courses related to information and communications technology (ICT) and inclusive or special education (74.8% and 64.4%, respectively). Only about 44% of teachers reported having the confidence to teach ICT-related topics. A sizable percentage of teachers (38.5% and 26.4%, respectively) said they had not received any training courses on differentiated teaching methods and student learning assessments.
- Teachers surveyed on SEA-PLM agreed on the importance of students learning GC related topics. Cambodian teachers also recognized the importance of the skills, values and characteristics related to GC that young people should possess and develop. Notably, in both cases, teachers seem to assign higher value to topics explicitly relevant to their country, than to topics of global relevance.
- Teachers also considered that their pre-service teacher education program prepared them well to teach contents related to GC; although the levels of agreement were lower for topics related to global issues. Most teachers reported being highly confident in teaching subjects related to GC to their students, however the proportion of teachers who felt confident to teach content related to global issues was lower.

Policy Options

With regard to the factors described above, some policy options could be.

- Implement strategies to bridge the gender gap
- Improve the quality of instruction for socially disadvantaged groups
- Reduce grade repetition
- Strengthen the quality of preschools
- Enhance the implementation of Child-Friendly Schools at the school level
- Increase parental engagement/participation with their children's education
- Promote GC and 'Asianization', especially among teachers
- Strengthen teacher education programs in Cambodia to respond to global issues.

Conclusion

The participation of Cambodia in the SEA-PLM 2019 program provided important and beneficial results and experiences. For example, Cambodia revealed reliable and invaluable evidence and information that can be used to strengthen early childhood and primary education. Cambodia was able to provide an answer, at least partially, to questions like, "How does the quality of early childhood and primary education in Cambodia fare when compared with other countries in the region?" "What are the explicit and implicit factors influencing the educational achievement of Grade 5 students?" "What should educators and relevant stakeholders do to achieve the expected goals in the near future?" The answers to these questions represent the information that the Ministry of Education, Youth and Sport (MoEYS) leaders, policymakers, educators and other relevant stakeholders need to inform decisions that would lead to improved education quality in

Cambodia. Another significant benefit of Cambodia's participation in SEA-PLM is that the national technical team of Cambodia gained relevant experience and developed on-the-job capacity in relation to international large-scale assessments. These include the capacity to lead and implement large-scale educational assessments, including to analyse data and write reports. With their capacity developed through participation in SEA-PLM, MoEYS technical officers, in particular EQAD, can be placed at the leading edge of any type of evaluation and assessment, and can become one of the main actors in the rolling out the education reform process in Cambodia.

Chapter 1. Introduction

1.1 What is the report about?

The Southeast Asia Primary Learning Metrics (SEA-PLM) was established to monitor the progress and achievements of Grade 5 students in each country, and the region as a whole. For the first round of SEA-PLM implementation in 2019, Cambodia participated in the main survey process with five other countries. This SEA-PLM national report is specifically written for Cambodia, and is associated with its students' learning outcomes. The regional technical SEA-PLM report is prepared by an external contractor, ACER. Some key regional findings and technical aspects aligned with SEA-PLM implementation in Cambodia are included in this report.

The SEA-PLM national report is organized in five chapters to give a sound chronological structure. Chapter 1 provides an overview of the Cambodian educational system, briefly mentioning educational background, ministry structure, basic education priorities and an assessment of the implementation of the system. Chapter 1 also describes the overview of the SEA-PLM assessment methodology, and the engagement of Cambodia in the main survey procedure. Chapter 2 presents the key findings of students' performance in reading, writing and mathematics, as well as the percentage of students located in each proficiency band compared to their peers in regional countries. Chapter 2 also shows where Cambodian students are in relation to SDG 4 indicators. In Chapter 3, the report further examines a wide range of student performance based on their backgrounds and characteristics, teachers and classroom characteristics, and schools and context characteristics. SEA-PLM also evaluated Cambodian students' attitudes and behaviours towards GC, and Chapter 4 presents the key findings in this area. Chapter 5 gives a summary of the key findings for reflection, and recommendations and discussion for policy options and policy responses.

1.2 Overview of the Cambodian education system

1.2.1 Educational background

The Cambodian education system did not have a clear structure until the French introduced a western style education system. Traditionally, education happened in local pagodas, Buddhist wats, with monks as teachers. A formal education allowed students, mostly young boys, to engage in education (Russell R., 1987). At wats, a secondary level was established in 1933. This required novice monks to study for four years, before sitting for a matriculation exam for the Buddhist University in Phnom Penh. The Buddhist school prepared a number of subjects, including the study of Pali, Buddhist doctrine, Khmer, mathematics, Cambodian history, geography, science, hygiene, civics and agriculture. Universities outlined three cycles of instruction, in which a doctoral degree was awarded to students after successfully completing the third cycle.

In 1930, a research institution named the Buddhist Institute was established. The institute served as a library and museum and kept a record and photograph collection. Tasks were conducted and deliverables were achieved by the commissions as parts of the Buddhist institute, including a collection of Cambodian folktales, a translation of the Buddhist canon into Khmer language, and a definitive two-volume dictionary of Khmer (Russell R., 1987).

The traditional education system was gradually changed under the French colony (1863-1953). Based on Russell (1987), from the early twentieth century until 1975 the education system consisted of primary, secondary, higher and specialized levels. Primary education operated in two

different cycles, consisting of three years each. The language of instruction used in the first cycle was Khmer, while French was used for the second cycle and thereafter. Each cycle was completed with the final state examination, and awarded with a certificate. During that time, as Russell (1987) highlighted, the school inspection committee was established for primary schools. Inspectors were assigned to every province and served as the authority to assure the quality of education, while the cultural committee was responsible for enriching the Cambodian language.

Cambodia has faced many challenges in providing education to its citizens, having experienced repeated social and political upheaval over the past six decades. By the early 1970s, the country was ruined by a severe civil war, then fell into a genocidal regime under the Khmer Rouge. The education system was completely destroyed, as the Khmer Rouge attempted to obliterate all existing systems and transformed the country into a Marxist agrarian society (UNESCO & IIEP, 2011). After the collapse of the regime in 1979, the education system was re-installed and has been gradually developed. From 1979 to 1986, the system applied a 10-year basis for general education. Students were required to spend four years at primary level before moving onto secondary level. At the earlier stage, a primary school was to serve each village in the community. Secondary school was divided into two levels. Students needed to complete the first level before taking the entrance examination for the second level. The academic years of the education system were modified. The purpose was to provide quality and effective teaching and learning for all young children, in line with their needs and social change. One academic year was added for primary level in 1986 (11 years from 1986 to 1996), and another year in 1996 (12 years from 1996 until now) (MoEYS, 2007).

1.2.2 Ministry Structure

Based on Sub-decree No. 156 អនក្រ.បក (2016), the major mission of MoEYS in Cambodia is to lead an administration and enhance education, youth and sport sectors to respond to the needs of economic, social and cultural development within the country and region. To achieve this mission, MoEYS has a structure with three bodies: 1) central level, 2) base municipal and provincial offices, and 3) higher education institutes. At the central or national level, there are seven sections with 25 departments, one inspectorate of administration and finance, one publishing and distributing house, two national sports training centers, and a ministry cabinet. The national level works collaboratively with sub-national levels (provincial and district offices of education, schools, teachers and students). As part of MoEYS management and leadership, about 10 universities or institutes are under the control of the ministry (MoEYS, 2016).

1.2.3 Basic Education Priorities

The priority for Cambodian education is reflected through the curriculum framework, updated in 2015 (MoEYS, 2015). The framework ensures the balancing progression of behaviour, knowledge and physical appearance for all citizens, so they can contribute to national, regional and global development. Aligning with this vision, a curriculum was updated to integrate core competencies into each subject, from kindergarten to upper secondary school level, as follows:

1. **Literacy and Numeracy:** learners will be able to use language and math to understand, explain, describe and argue, coordinate, encourage, explore and solve problems in further study and daily life, and professional work.
2. **Foreign Languages (English and/or French):** learners can adequately use foreign languages for communication, research and continued study.
3. **ICT:** learners can use computers and ICT in their studies and daily lives.

4. **Communication and Teamwork:** learners can use literacy and numeracy skills to: 1) disseminate ideas, knowledge, skills, feelings and opinions, 2) evaluate the information to be received, and not to be received, based on reasoning, 3) effectively and in a timely manner negotiate mechanisms and problem-solving approaches in order to benefit all.
5. **Analysis and Creativity**: learners will be able to: 1) analyse and evaluate information, anticipate problems, analyse problems for possible solutions and use critical thinking for decision-making, 2) ensure innovation, create a new possibility, new ideas or new knowledge, and 3) promote a love of independent and life-long learning.
6. **Applying Knowledge and Skills**: learners are able to apply knowledge and skills acquired from learning each subject of study at all levels of education to benefit their daily lives, and to change from a society of information to a society of knowledge.
7. **Personal, Family and Social Development**: learners will be able to apply competencies in personal, family and social development to their daily lives as citizens in a changing and competitive world. Competencies in personal, family and social development aim to equip students with: 1) responsibility for themselves, family and society with understanding, love and commitment, 2) ethics, right-wrong judgement, protection and expansion of integrity, and 3) unity in undertaking team responsibility or mutual relationships with compassion and kindness to promote happiness for self, family and society.
8. **Entrepreneurship and Leadership:** entrepreneurship and leadership is the ability of learners to apply the knowledge embedded in these seven competencies so they can ensure success in income-oriented small businesses.

As mentioned in the curriculum framework (MoEYS, 2015), the expected learning outcomes at preschool level were to develop children's competencies in listening, speaking and communicating by using appropriate words and gestures with friends, family members and other people, and giving reasons for their own actions and recognizing right from wrong. Some factors were also mentioned that would equip young children with collaboration and GC skills (loving the environment, themselves, family members, friends and others).

At primary school level, learners will acquire a basic knowledge of Khmer language, social studies, mathematics, physical health, moral development, science, ICT and foreign languages. The learners are expected to build up more competencies and skills of critical thinking, communication, problem solving and GC (love and value environment, family, friends, people; recognize and value other cultures, traditions, arts; and be responsible for their actions). These similar and advanced-level competencies and skills are accumulated by students from primary to upper secondary school levels.

Besides the curriculum, MoEYS designed a life skills program as an extra curriculum and integrated it into teaching and learning activities (MoEYS, 2011). The life skills education program responded to the needs of students living in a global society. This requires knowledge, skills and appropriate attitudes to effectively deal with all the challenges and needs of everyday life. As defined in 2006 by MoEYS, local life skills are the intrapersonal and interpersonal skills that could help students in decision making and communication. In the local life skills program, students were prepared to achieve certain skills for future careers: critical and creative thinking, problem solving, decision making, communication, goal setting, risk taking, reasoning and teamwork. These are called pre-career skills (MoEYS, 2006).

1.2.4 Assessment Implementation in the System

Small scale assessments, for example monthly and semester tests, have been used and applied widely in the Cambodian education system since the 1980s. Although prepared and developed by different individual teachers and schools, and considered not to reach a quality standard, those tests serve to monitor and evaluate students' learning progress against the learning objectives, and promote students to the next grades (MoEYS, 2018). In 2018, MoEYS introduced a Kindergarten-12 (K-12) student learning assessment framework. This was a MoEYS initiative following a large-scale learning assessment, the National Assessment, which was rolled out in 2007. Cambodia participated in the SEA-PLM in 2014 and the PISA-D in 2016. The framework discloses a holistic view of all sorts of assessments which embed different purposes: to provide evidence-based learning; inform policies and actions; and improve teaching and learning in the classroom. The framework is divided into internal and external assessments. The internal assesment is formative and comprises all tests at school and classroom level. The external assessment is summative and includes large-scale assessments and national examinations (MoEYS, 2018). The National Assessment began in Cambodia in 2005, with the support of the World Bank in the early stages. However, it took about two years for MoEYS to set up systems for data administration, data collection and data management to assess Grades 3, 6 and 8, while Grade 11 was integrated into the system in 2018. The constituted subjects, called domains, were selected specifically for primary level in Grades 3 and 6 (Khmer and mathematics) and secondary level in Grades 8 and 11 (Khmer, mathematics and physics) on a four-year cycle.

1.3 Overview of SEA-PLM

The SEA-PLM is a sample-based assessment, specifically developed for countries in Southeast Asia. It is a new regional program initiated by SEAMEO and the UNICEF East Asia Pacific Regional Office (EAPRO). SEA-PLM was designed to assess learning outcomes of Grade 5 students associated with the four domain areas of reading, writing, mathematics and GC, to inform policymaking and ensure all children achieve meaningful learning (UNICEF & SEAMEO, 2017).

ACER was a potential technical partner supporting the design, implementation and capacity development of the program. ACER played an important role in ensuring the international standard of the SEA-PLM procedure through the development of the SEA-PLM assessment framework, tests and questionnaires, sampling, survey and data procedures and protocols. Other key partners engaged in the SEA-PLM process are UNICEF Cambodia, the ASEAN Secretariat, the Centre for Universal Education (CUE) at the Brookings Institute, the Korean Education Development Institute (KEDI), the Korea Institute for Curriculum and Evaluation (KICE), the Network on Education Quality Monitoring in the Asia-Pacific (NEQMAP) and UNESCO Bangkok (Kate & Care, 2018).

Like other large-scale assessments, SEA-PLM prepared a field trial to test all aspects of instruments, administration protocols, appropriateness and functionality of the items used in the main survey. Six participating countries, and Brunei Darussalam, participated in the field trial between 2015 and 2018, covering 277 primary schools with 15,392 students, 2,558 teachers and 14,479 parents. ACER developed items and designed 18 test booklets and six questionnaires in nine different languages (UNICEF & SEAMEO, 2019).

1.3.1 SEA-PLM Objectives

Through a common primary learning metrics, participating countries could monitor and understand the status of their student learning outcomes across sub-populations and take action to optimize the quality of education in all sectors of the entire system. It also allowed participating countries to build overarching capacity to improve their learning assessment systems. SEA-PLM contributes to Sustainable Development Goal 4, especially SDG 4.1.1b on 'relevant and effective learning outcomes by the end of primary school'. The overall SEA-PLM expected achievement was to:

1. Enhance capacity to generate and analyse assessment data at regional, national and sub-national levels.
2. Enhance capacity to utilize assessment data for education improvement and more equitable learning outcomes at regional, national and sub-national levels.
3. Enhance ASEAN integration in terms of approaches to assessment, with an initial focus on primary Grade 5 in the learning areas of numeracy (mathematics), literacy (reading and writing), and GC (SEAMEO & UNICEF, 2017).

1.3.2 Cambodia Engagement in the SEA-PLM

Cambodia was involved in the establishment and preparation of the SEA-PLM program in 2012 and officially signed up to conduct a field trial in 2014 at the 36th SEAMEO High Official Meeting. In Cambodia, SEA-PLM was implemented by EQAD of MoEYS. EQAD conducts all sample-based learning assessments in Cambodia. Its primary task is to measure the progression and development of education sectors and to monitor student learning achievement (MoEYS, 2019).

The field trial of the SEA-PLM was rolled out in June 2016 in over 35 schools, with approximately 1,800 student respondents across 12 provinces. This was followed by a mini field trail in 2018. Since some math items were not qualified and sufficient enough for the main survey after the field trial, Cambodia was selected to conduct a mini field trial based on the excellent engagement, resourcefulness and management of the trial conducted in 2016 (UNICEF Bangkok, personal communication, 2018).

The main survey was implemented successfully, as a result of fruitful collaboration between relevant stakeholders, specifically in-country contributors, including MoEYS leaders, UNICEF Cambodia, provincial office of education officials, schools and parents.

1.3.3 Participants

In the first cycle, six countries participated in SEA-PLM (see Table 1), with more than 31,000 pupils from 1,000 schools. More information on the study design and implementation in each country can be found in the SEA-PLM Regional Report (UNICEF & SEAMEO, 2020). In Cambodia, 5,396 pupils (2,766 female), 380 teachers (185 female), 5,374 parents and 177 schools participated in the study.

Table 1.1. SEA-PLM 2019 participating countries
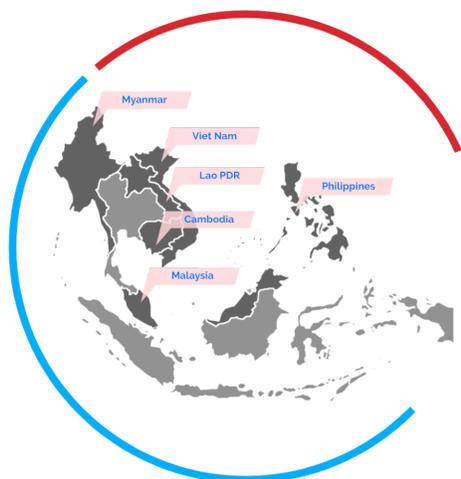
Country	Participating sampled schools	Number of participating classes	Number of participating students
Cambodia	177	177	5,396
Lao PDR	233	233	4,698
Malaysia	160	160	4,479
Myanmar	201	201	5,694
Philippines	173	173	6,083
Vietnam	149	150	4,837
Total	1,093	1,094	31,187

Source: SEA-PLM 2019 Main Regional Report

1.3.4 Who administer the test in Cambodia?

At the country level, the survey involved officials from MoEYS at national and sub-national levels. Test administration and national data analysis and reporting in Cambodia was managed by EQAD of MoEYS. Together they recruited schools for the field trial and main study, reviewed and translated assessment tools and adapted the test items for use in Cambodia, supported participating schools to administer the tests during the main study period from 4–6 July 2019, marked all assessment and questionnaire responses, and undertook a curriculum matching exercise.

As the activities rolled out, 25 provincial offices of education across the country played important roles in supporting the national technical team. The provincial office of education is a line education office of EQAD at the provincial level. It communicated with schools to prepare student and teacher lists, update tracking forms, distribute the test materials and facilitate the recruitment of test administrators and school coordinators.

Before the data collection was scheduled, test administors and school coordinators were invited to attend a three-day training workshop on their roles, responsibilities and confidentiality of the tools. Detailed explanations of each step and the guideline of activities before, during and after data collection were delivered at the training sessions, for around 300 participants. Most school coordinators were principals of the selected schools. They were committed to coordinating the tasks in their schools, preparing a convenient environment in the classroom, encouraging students to come to school on the the test day, and engaging parents and teachers to respond to the questionnaires.

1.3.5 Purpose of the report

The purpose of the national report is to measure the progress and development of Cambodia's education sector and monitor student learning achievement in primary level. Specifically, the purpose of the report is to establish what Grade 5 Cambodian students know and can do in relation to reading, writing and mathematics, as well their attitudes and behaviours towards GC. It also considers and compares factors identified as influential to education outcomes, such as student, teacher and school characteristics. The specific purposes are:

- To assess students' curriculum-based competence in reading, writing and mathematics

- To examine students' attitudes and behaviours towards national and regional contexts
- To collect information related to the backgrounds and characteristics of students, families, teachers, schools, parents and communities to reflect on the country's education system
- To share lessons learned and recommendations among relevant departments, provincial offices of education, schools and teachers to improve the quality of education.

1.4 Assessment Methodology

1.4.1 SEA-PLM design and sample

All countries participating in SEA-PLM follow strict guidelines and sampling targets to ensure that the group of pupils that eventually participates in the study is nationally representative.

It is impossible to administer the SEA-PLM assessment to every Grade 5 student in a country, as this would place an unacceptable burden on countries' education systems. Therefore, the assessment was administered to a sample of students across the countries. SEA-PLM used a complex sampling method to obtain samples large enough to give the results statistical power, and that uses school-level information to ensure that the pupils chosen to take part in the study are nationally representative. Certain sub-populations may still be under or over-represented in the data, but this sampling method also allows for the creation of 'weights' that can be applied to the pupil-level or school-level data. These help correct under- or over-representation.

All participating countries applied the same sampling procedures, which consisted of the definition of the national target population, construction of the sampling framework, definition of stratification variables, sampling of schools and classes, and allocation of booklets between students within classes. Selecting the sample was a two-stage process. During the first stage, schools were selected using a procedure known as systematic random sampling, with probabilities proportional to size (i.e. the number of enrolled Grade 5 students). A *minimum* of 150 schools were sampled from each participating country. During the second stage, in each selected school one Grade 5 class was selected at random and students in the selected classes participated in the assessment. Apart from the student assessment in reading, mathematics and writing, SEA-PLM included a set of context questionnaires designed to collect information about the context in which teaching and learning took place. These context questionnaires were administered to all students who participated in the assessment, their parents, all Grade 5 teachers and the principals (or nominated school representatives) of the selected schools.

In Cambodia, the selected sample consisted of 5,396 students, 5,374 parents, and 380 teachers from 177 schools across the 25 provinces. All ages of Grade 5 students were eligible and included in the sample. Regarding the assessment tools, there were 18 different booklets, with two of the three cognitive domains compiled in each booklet. The respondent student was randomly assigned to work on any booklet in which s/he would miss one cognitive domain, whether reading, writing or mathematics (SEAMEO & UNICEF, 2018a). To complete the test, the selected students had to spend exactly one hour on cognitive test items and approximately 30 minutes on their contextual questionnaire, including GC items (SEAMEO & UNICEF, 2018b). Principals, teachers and parents were also required to fill in questionnaires related to their knowledge and experiences, schools and communities.

1.4.2 SEA-PLM scores and proficiency scale

Students' performances are calibrated and described on a SEA-PLM scale score in such a way that learning outcomes can be compared accurately and reliably across countries and language

versions. One scale score was constructed for each cognitive domain: reading literacy, mathematical literacy and writing literacy. Test questions were scaled using item response theory, with a one-parameter model (Rasch, 1960) for dichotomous, and two-parameter model for partial credit items. The ACER ConQuest Version 5.9.0 software (Adams, Wu, Macaskill, Haldane, Sun and Cloney, 2020) was used to conduct the complete process.

Using regional item parameters anchored at their estimated values from the calibration process, plausible values were randomly drawn from the marginal posterior of the latent distribution (Mislevy, 1991; Mislevy & Sheehan, 1987; von Davier, Gonzalez, & Mislevy, 2009). The final six-country average of each score scale domain was normalized to 300 points and the standard deviation to 30 points, all countries being given equal weighting.

Each scale is also presented through difficulty 'bands' to facilitate the use of the results. A general description is proposed within each band of what skills and knowledge children must possess to have a high probability of answering items in that band correctly. The proficiency bands are unique to each domain and therefore are not directly comparable across the domains.

The SEA-PLM 2019 reading scale (Table 2.1) includes five bands of proficiency, ranging from Band 2 and below to Band 6 and above. The SEA-PLM 2019 writing proficiency scale (Table 2.2) includes eight bands of proficiency, ranging from Band 1 and below to Band 8 and above. The SEA-PLM 2019 mathematics scale (Table 2.3) includes eight bands of proficiency, ranging from Band 2 and below to Band 9 and above.

At each level, children are able to respond with high probability to at least half the questions set for that level, on average. Students whose scores are close to the higher end of the range for a given level can correctly answer close to 70% of the questions set for that level. Students whose scores are close to the lower end of the range for a given level are able to correctly answer at least 50% of the questions set for that level (ACER, 2020).

1.4.3 Alignment with SDG 4.1.1 indicators

The process of reporting SEA-PLM results over the SDG 4.1.1a and 4.1.1b indicators was done using a qualitative alignment of SEA-PLM 2019 proficiency descriptors to the SDG expanded statement definition of the SDG indicators. These expanded definitions are endorsed by the Global Alliance to Monitor Learning, coordinated by the UNESCO Institute for Statistics (GAML, 2019). The SEA-PLM program is represented in GAML activities and decision-making processes through SEAMEO and UNICEF. This initiative will allow for reporting national progress on the year 2019 over United Nations targets.

Domain experts in charge of developing the SEA-PLM proficiency scales matched a posteriori content of the final SEA-PLM proficiency bands with the expanded statement definition of SDG 4.1.1a and SDG 4.1.1b to select the most appropriate band corresponding to the international definition.

The percentage of students in Grade 5 who score below, at, or above the minimum proficiency level as stated by the international community is reported in Chapter 2 (UNICEF & SEAMEO, 2020).

References

ACER. (2020). *SEA-PLM 2019: Cambodia National Performance on SEA-PLM Proficiency Scales*. Bangkok, Thailand: UNICEF & SEAMEO - SEA-PLM Secretariat.

Kate, A., & Care, E. (2018). *SEA-PLM Governance Study: Final Report*. Bangkok, Thailand: UNICEF & SEAMEO - SEA-PLM Secretariat.

MoEYS. (2006). *Policy for Life Skills Education*. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2007). *Child-Friendly School Policy*. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2011). *Curriculum of Basic Life Skills*. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2015). *Curriculum Framework Of General Education and Technical Education*. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2016). *Sub-Decree on Organization and Functioning of Ministry of Education Youth and Sport, Royal Government of Cambodia*.

MoEYS. (2018). *K-12 Learning Assessment Framework*. Ministry of Education Youth and Sport, Cambodia.

MoEYS. (2019). *Results of Grade 11 Student Achievement from the National Assessment in 2018*. Phnom Penh, Cambodia: MoEYS.

Russell R., R. (1987). *Cambodia: A Country Study* (3rd ed.). GPO for the Library of Congress. https://apps.dtic.mil/dtic/tr/fulltext/u2/a221925.pdf

SEAMEO, & UNICEF. (2017). *Southeast Asia Primary Learning Metrics: A regional assessment to help improve learning for all children*. Thailand, Bangkok: UNICEF & SEAMEO - SEAMEO Secretariat.

SEAMEO, & UNICEF. (2018a). *Southeast Asia Primary Learning Metrics (SEA-PLM): Technical Team Manager's Manual*. Bangkok, Thailand: UNICEF & SEAMEO - SEA-PLM Secretariat.

SEAMEO, & UNICEF. (2018b). *Southeast Asia Primary Learning Metrics (SEA-PLM): Test Administrator's Manual*.

UNESCO, & IIEP. (2011). *Education and Fragility in Cambodia*. IIEP, Paris, French.

UNICEF Bangkok. (2018). *Terms of Reference for developing and trialling new math items for the Southeast Asia Primary Learning Metrics (SEA-PLM) in preparation for the Main Survey* [Personal communication].

UNICEF, & SEAMEO. (2017). *SEA-PLM 2019 Assessment Framework* (1st ed). Bangkok, Thailand: United Nations Children Fund (UNICEF) & Southeast Asian Ministers of Education (SEAMEO) - SEA-PLM Secretariat.

UNICEF, & SEAMEO. (2019). *The Southeast Asia Primary Learning Metrics Program: Thinking globally in a regional context*. Camberwell, Australia: Australia Council for Educational Research.

UNICEF, & SEAMEO. (2020). *SEA-PLM 2019 Main Report, Children's learning in 6 Southeast Asian countries*. Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education (SEAMEO) - SEA-PLM Secretariat.

Chapter 2. Students' performance in reading, writing and mathematics

2.1. Introduction

Cambodia has been involved in the establishment of the SEA-PLM program since 2012 and officially signed up to conduct a field trial in 2014 at the 36th SEAMEO High Official Meeting. In Cambodia, SEA-PLM was implemented by EQAD of MoEYS, which is the institution responsible for conducting all sample-based learning assessments in Cambodia. EQAD's primary task is to measure the progress and development of education sectors and to monitor student learning achievement.

The main survey of SEA-PLM 2019 was rolled out at the end of the 2018/19 school year in six participating countries in the region: Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Vietnam. It covered 1,093 primary schools, 1,094 classes, and 31,187 students across the participating countries. It used 18 test booklets and six questionnaires in nine different languages.

In Cambodia, in particular, the main survey was successfully implemented in July 2019, in 177 schools across 23 provinces. As a result, a total of 5,396 Grade 5 students (51.3% girls), 380 teachers (48.7% female), 5,374 parents and 177 schools participated in the study.

This chapter presents the performance of Grade 5 students in Cambodia in the academic year 2018/19 who participated in SEA-PLM 2019 in reading, writing and mathematics. It uses the proficiency bands as a reference. Chapter 2 discusses what Grade 5 students in the participating countries know and can do by indicating the percentage of students in each of the bands. The chapter highlights the number of Grade 5 students who met the minimum proficiency level for the end of lower primary education (SDG 4.1.1a) and the end of primary education (SDG 4.1.1b).

Box 2.1. How to read the SEA-PLM proficiency scales

In SEA-PLM, students' growth in proficiency in each domain is represented in the form of described proficiency scales. The proficiency scales are underpinned by an empirical scale based on actual student responses in the SEA-PLM 2019 assessment. Students are located on the scale based on their demonstrated levels of proficiency.

Each proficiency scale is divided into bands describing different levels of student proficiency. These bands were developed against the empirical scale through a process of grouping test items by difficulty and item content. Proficiency scales describe what children in each band can do. These bands of proficiency are unique to each domain and therefore are not directly comparable across the domains.

The SEA-PLM reading proficiency scale (Table 2.1) includes five bands, ranging from Band 2 and below to Band 6 and above. The SEA-PLM writing proficiency scale (Table 2.2) includes eight bands, ranging from Band 1 and below to Band 8 and above. The SEA-PLM mathematical proficiency scale (Table 2.3) includes eight bands, ranging from Band 2 and below to Band 9 and above.

For a child to be considered proficient in any given band, he/she must be able to correctly answer, on average, at least half the questions set in that band. A child whose score is at the lower end of the range can correctly answer at least 50% of the questions set for that band. A child whose score is at the higher end of the range can correctly answer close to 70% of the questions.

In summary, children in any given band can correctly answer the majority of the questions set for that band and for lower bands, but face greater difficulty in performing the activities set for higher bands. For instance, children in Band 3 can correctly answer most of the questions set for Bands 1, 2 and 3, but are likely to correctly answer less than 50% of questions in Band 4.

Source: SEA-PLM 2019 Main Regional Report

SEA-PLM developed its own proficiency scales for the three domains considered in the study. Proficiency scales of SEA-PLM offer a common reference to compare performance between and within countries. Describing children's knowledge in a rigorous, measurable and comparable way is a key milestone in any international assessment. Proficiency scales provide important information to enable education stakeholders and systems to monitor learning growth for students with different profiles, which in turn allows for sustainable improvement in curriculum achievement and literacy. Box 2.1 describes the structure and operation of the new SEA-PLM proficiency scales (UNICEF & SEAMEO, 2020a).

For each of the SEA-PLM 2019 proficiency scales – reading, writing and mathematics – children who are in the highest band are likely to have mastered the fundamental skills expected by the end of primary school. Those children are also more likely to engage well in other important Grade 5 curriculum content, including the development of skills commonly considered critical in the 21st century, such as communication, technology use and critical thinking (UNICEF & SEAMEO, 2020a).

2.2. Reading literacy

2.2.1. What is reading literacy in SEA-PLM?

The term reading literacy is used in preference to the word reading to emphasize that what is being assessed goes beyond simple decoding of words, though it also includes that. Reading literacy includes a range of cognitive skills such as locating and interpreting information, as well as knowledge of words and knowledge of linguistic structures and features. The term reading literacy also encompasses the idea that reading is done in a context and for a purpose. Thus, reading literacy includes the notion of relating one's knowledge about the world to texts, and using texts to develop and reappraise one's knowledge of the world.

"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).

The SEA-PLM definition focuses specifically on written texts and emphasizes the interactions of readers with them. The SEA-PLM reading literacy domain is therefore built upon a multi-layered understanding of what it means for a child to be able to read a variety of different texts for different purposes. The format of a text may be continuous, non-continuous, or mixed. The text type may be narrative, descriptive, persuasive, instructional or transactional. The context of a text may be personal, local or wider-world (UNICEF & SEAMEO, 2020a).

In SEA-PLM, reading incorporates two elements: recognizing text and understanding text, the former being a precursor to achieving the later. As a first step, students must be able to recognize words, leading to more complex comprehension skills (understanding text) related to locating, interpreting and reflecting on different text types that are each written for different purposes. More information on reading literacy definition as defined in SEA-PLM 2019 is presented in the SEA-PLM 2019 Assessment Framework (UNICEF & SEAMEO, 2019).

2.2.2. Performance in reading

Cambodia's average score of 290 puts the average performance of students within Band 4 of the SEA-PLM reading proficiency scale. Students located in Band 4 are able to understand simple texts. They can locate synonyms and specific information in tables and other familiar text types. They can make simple inferences when obvious clues are provided and can identify longer sentences that describe an image. These students are working towards higher levels of proficiency and demonstrate solid proficiency in the skills described in Bands 3 and lower.

Figure 2.1. Reading performance across SEA-PLM participating countries
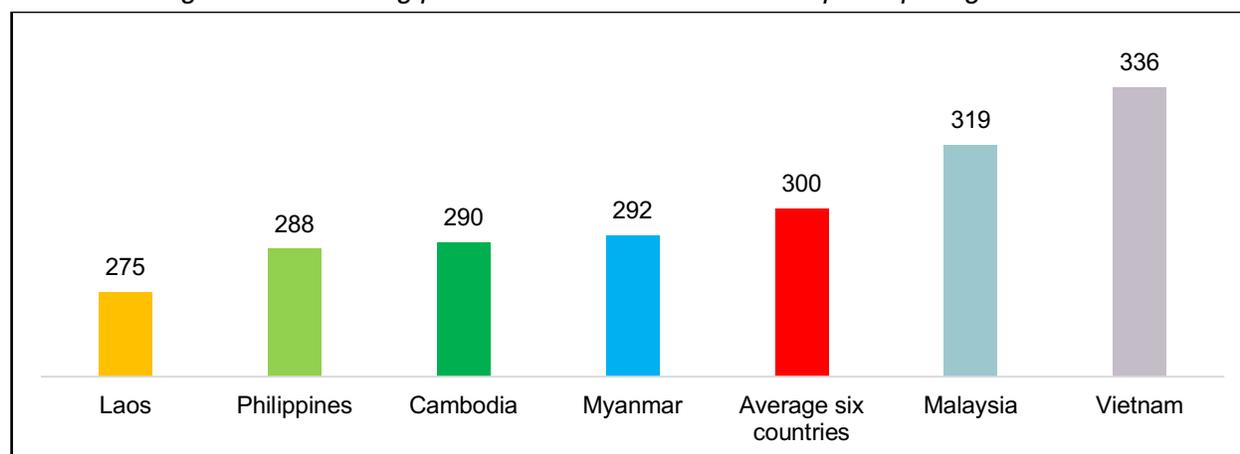
Source: SEA-PLM 2019 Main Regional Report

For reading, among the SEA-PLM participating countries Cambodia's average score was lower than the average six countries (300). However, Cambodia's average score was higher than the averages of Laos and the Philippines. Vietnam and Malaysia were the two highest-scoring countries, with scores of 336 and 319, respectively. Figure 2.1 shows the average performance of all the countries who participated in SEA-PLM 2019.

2.2.3. Reading performance distribution by SEA-PLM proficiency scale bands

As discussed in Chapter 1, SEA-PLM uses a proficiency scale to outline how scores correspond to different reading skills. For the reading domain, five bands were produced, based on the difficulty level of reading items and a student's ability to perform the reading items (Table 2.1). Each level was named, from Band 2 and below, Band 3, Band 4, Band 5, and Band 6 and above. Band 1 was reserved for future expansion (UNICEF & SEAMEO, 2020b). Table 2.1 describes the reading skills that students are expected to demonstrate in each band, the associated scores for each benchmark and the percentage of Cambodian students in each band.

Table 2.1 Description of reading bands

Band	Description of what students can typically do
Band 6 and above (317 and above) **11%**	**Understand texts with familiar structures and manage competing information** Students above Band 5 can understand texts with familiar structures and manage competing information when locating ideas and details. They are able to find multiple pieces of related information in texts with familiar structures, and make connections between details and ideas to draw inferences. They are able to use clues and explicit information to support inferences even when there is competing information. They are also able to identify the most likely reasons for events and the reactions of characters in narratives, where that information is only implied in the text.
Band 5 (304 to less than 317) **16%**	**Make connections to understand key ideas** Students in this band are able to connect pieces of related information across sections of texts, including tables and diagrams, enabling them to understand key ideas. The context and ideas in the texts that they can access may not be wholly familiar to the student. They can recognize phrases and sentences that convey the same meaning, and make simple inferences when there is some competing information. They can identify the purpose of prominent textual features in short, familiar texts and use textual features to aid them in locating information.

Band 4 (289 to less than 304) 25%	**Understand simple texts** Students in this band can understand simple texts that contain some ideas and information that is partly outside of the student's personal experience. Students can locate different, short expressions that have the same meaning (e.g. synonyms), and use textual features to locate information in tables and other familiar text types. They can connect prominent information across adjacent sentences. They can make simple inferences, when obvious clues are provided, in a range of simple texts of different types. Students are able to make plausible interpretations of information in a text, and can identify the purpose of familiar text types. They are able to use the textual features of familiar text types, such as tables and letters, to locate details. In matching words to an image, they are able to choose between words that have similar but distinct meanings, and they can identify longer sentences that describe an image.
Band 3 (274 to less than 289) 24%	**Read a range of everyday texts fluently and begin to engage with their meaning** Students in this band are able to read a range of everyday texts, such as simple narratives and personal opinions, and begin to engage with their meaning. They are able to locate prominent details in everyday texts, as well as connect related information where it is obvious and there is minimal competing information. They are typically able to make simple inferences from prominent information.
Band 2 and below (less than 274) 24%	**Identify relationships between words and their meanings** There were only a few items in SEA-PLM that were below Band 3, so it is not possible to create a general description of what students below Band 3 know and can do in reading. However, the items that were included indicate that students in Band 2, and possibly below Band 2, are typically able to match one of four given words to an illustration of a familiar object, place or symbol, where the task is simple, direct and repetitive. This demonstrates that students below Band 3 are able to identify the meaning of some words.

Table 2.1 shows that close to three quarters (73%) of the Grade 5 students in Cambodia master the knowledge and skills described in Bands 2 and below, 3 and 4; while the remaining 27% obtained a score that places them at Band 5 and Band 6 and above.

Figure 2.2 shows the weighted percentage of students in Cambodia and other participating countries in each of the reading proficiency scale bands. The figure also displays the average percentages for all SEA-PLM countries and the percentages for individual countries. The numbers included in each bar represent the highest band reached by pupils in that country, expressed as a percentage of that country's sample.

The best-performing country is Vietnam, with about 82% of students situated in Band 6 and above and only 1% of students in Band 2 and below. The second-best performer country is Malaysia. About 58% of Malaysian Grade 5 students were in the highest band, Band 6 and above, while only about 5% were located in Band 2 and below. The proportion of Cambodian students in each band is most similar to those of the Philippines, and the average six countries (Figure 2.2).

Figure 2.2. Percentage of Grade 5 students in each reading band, by country
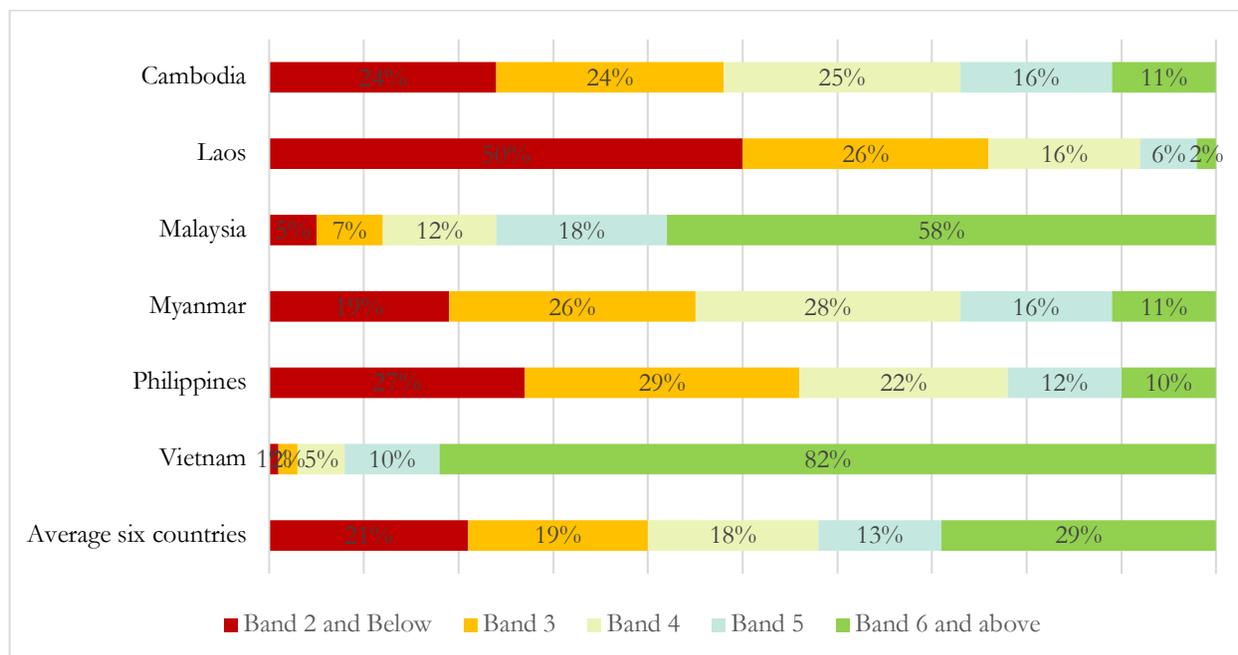
Source: SEA-PLM 2019 Main Regional Report

2.2.4. Reading performance distribution against SDG indicators

As mentioned in the regional report, the content of the final SEA-PLM proficiency bands was matched with the expanded statement definition of SDG 4.1.1a and SDG 4.1.1b.

SDG 4.1.1a

The recommended *SDG 4.1.1a* indicator for minimum proficiency in reading for the **end of lower primary** has the following:

- Nutshell statement

  Students read aloud and comprehend many single written words, particularly familiar ones, and extract explicit information from sentences. They make simple inferences when longer texts are read aloud to them. (ACER-GEM&UIS-GAML, 2019, p12)

- Expanded statement

  In a short simple text of one or two sentences, learners read aloud most words – including some unfamiliar words – accurately but slowly and often word by word. They identify the meaning of familiar words, including when they have morphological changes. They retrieve explicit information from a single sentence. When listening to longer texts, and looking at the illustrations, learners retrieve explicit information about main events, ideas or characters and use that information to draw simple inferences. They identify the meaning of familiar words and some unfamiliar words. (ACER-GEM&UIS-GAML, 2019, p12)

According to the matching exercise carried out by the domain experts in charge of developing the SEA-PLM proficiency scales, the SEA-PLM reading proficiency Band 3 corresponds to minimum

proficiency in reading for the *end of lower primary* education. That is, students located in Band 3 and above have a reading proficiency that meets or exceeds the proficiency suggested by SDG 4.1.1a for students at the end of lower primary education.

Figure 2.3 shows the proportion of students in the SEA-PLM 2019 participating countries who reached the minimum reading standard suggested by SDG 4.1.1a.

The figure indicates that 76% of Cambodian Grade 5 students met the minimum proficiency level suggested by SDG 4.1.1a, which is similar to those from the Philippines and average for the six countries. Overall, more than two thirds of Grade 5 students in each participating country of the SEA-PLM 2019 reached or exceeded the minimum reading proficiency suggested by SDG 4.1.1a, except those from Laos. The country with the highest proportion of students who met the minimum proficiency level was Vietnam, followed by Malaysia.

Figure 2.3. Percentage of Grade 5 students who met the minimum proficiency in reading for the end of lower primary, by country
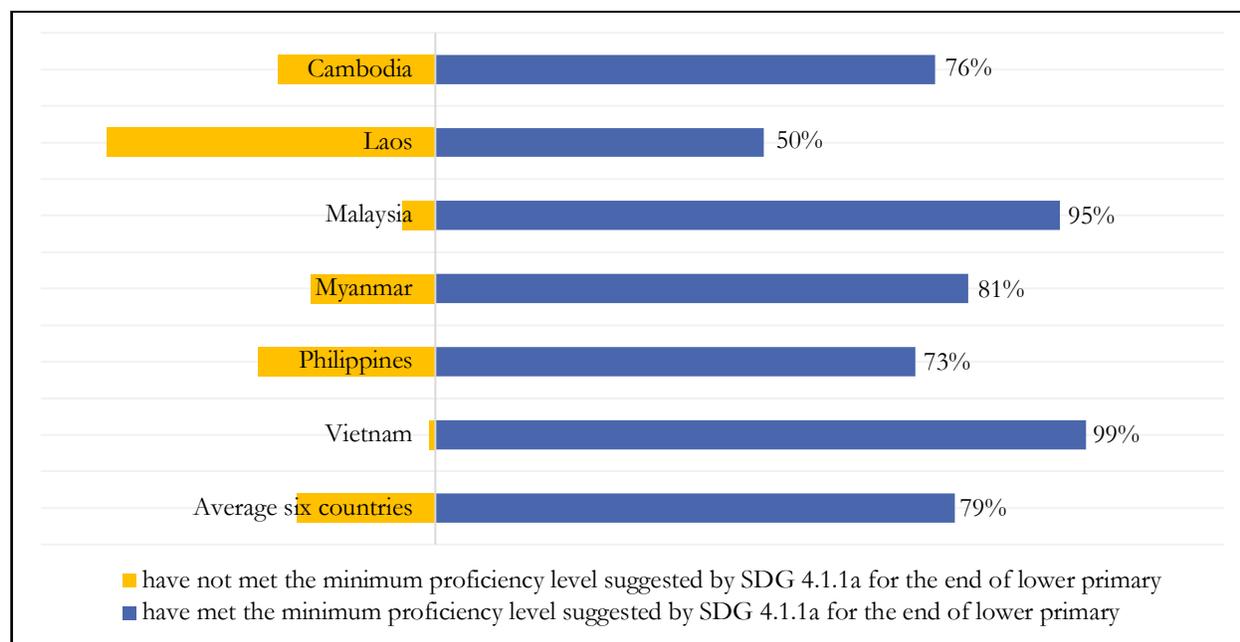
Source: SEA-PLM 2019 Main Regional Report

SDG 4.1.1b

The recommended *SDG 4.1.1b* indicator for minimum proficiency in reading for the ***end of primary*** has the following:

- Nutshell statement

  Students independently and fluently read simple, short narrative and expository texts. They locate explicitly stated information. They interpret and give some explanations about the key ideas in these texts. They provide simple, personal opinions or judgements about the information, events and characters in a text. (ACER-GEM&UIS-GAML, 2019, p16)

- Expanded statement

In a short, simple narrative or expository text, learners read aloud at a pace and a level of accuracy that demonstrates understanding. They use previously-taught morphological (word-level) and contextual (sentence or text level) clues to understand the meaning of familiar and unfamiliar words and to distinguish between the meanings of closely related words. When reading silently or aloud, they locate explicit information in a paragraph. They use that information to make inferences about behaviours, events or feelings. They identify the main idea of a text if it is prominently stated and recognize common text types when the content and structure are obvious. They make basic connections between the text and their personal experience or knowledge. (ACER-GEM&UIS-GAML, 2019, p16)

According to the matching exercise carried out by the domain experts in charge of developing the SEA-PLM proficiency scales, the SEA-PLM reading proficiency Band 6 and above corresponds to minimum proficiency in reading for the *end of primary* education. That is, students located in Band 6 and above have a reading proficiency that meets or exceeds the proficiency suggested by SDG 4.1.1b for students at the end of primary education.

Figure 2.4. Percentage of Grade 5 students who have met the minimum proficiency in reading for the end of primary, by country
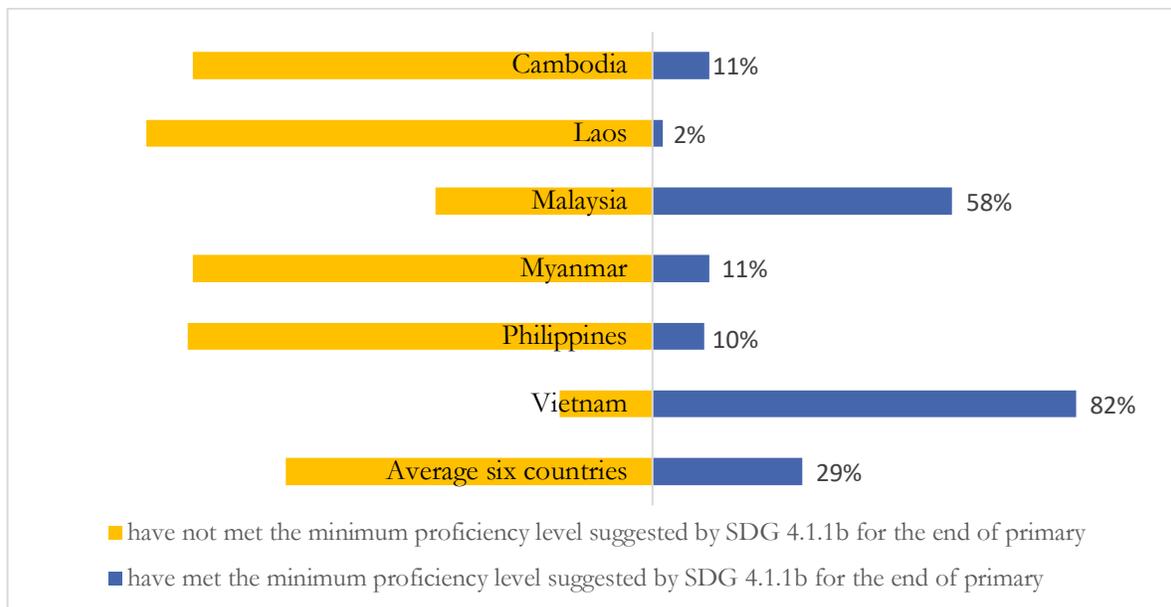
Source: SEA-PLM 2019 Main Regional Report

Figure 2.4 shows the proportion of students in the SEA-PLM participating countries who reached the minimum reading standard suggested by SDG 4.1.1b. It can be seen that similar amount of students from Cambodia, Myanmar and the Philippines enrolled in Grade 5 reached or exceeded the minimum reading proficiency suggested by SDG 4.1.1b (11%, 11%, and 10%, respectively). Interestingly, the country with the highest proportion of students at this proficiency level was Vietnam (82%).

2.3. Writing literacy

2.3.1. What is writing literacy in SEA-PLM?

Like reading and mathematics, writing is a foundational skill for future learning and full participation in the economic, political and social life of adults. In school contexts, writing is a basic tool for learning. In later life, writing is essential for participation in many aspects of everyday life: for example, in communicating with friends and family, or with government departments. In the workplace, even routine jobs increasingly rely on high-level cognitive skills – including written communication – rather than on manual skills. In the digital age, personal and social communication is increasingly conducted in written text, through social media. In the 21st century, written language is as at least as important as it has ever been for the individual (UNICEF & SEAMEO, 2017).

The term writing literacy is used in preference to the word writing to emphasize that what is being assessed goes beyond simply copying or forming words, although the ability to write words in legible handwriting and to use correct spelling or character formation is an essential component of writing. The term writing literacy is meant to convey the idea that writing is done in a context, for an audience and with a purpose. Writing literacy includes a range of cognitive skills such as generating and organizing ideas, applying vocabulary and drawing on knowledge of linguistic structures and textual features.

> *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).

The term construct is used here to emphasize that meaning comes from the writer. Written texts contain ideas developed by the writer, using knowledge of language and text, rather than being simply a written copy of others' ideas.

While, most typically, people write in order to convey ideas and information to a specific audience, writing can also be for oneself – an act of personal expression.

Writing may be done for a variety of purposes: from keeping personal records to showing one's knowledge in the classroom; from sharing one's experiences with others to getting things done; and from meeting the demands of one's job to participating in public life.

2.3.2. Performance in writing

The average score of Grade 5 students in Cambodia in the writing domain was 285. This places the average performance of students in Band 1 and below of the SEA-PLM writing proficiency scale. Students located at Band 1 and below are considered to have limited ability to present ideas in writing. They are able to produce a few sentences with very limited content. When trying to describe a picture, for example, they may focus on only a few isolated features or produce extremely general ideas. They can produce some imperative language, but it is inconsistent. The limited range of vocabulary accessed by students in this band would be inadequate to describe a picture in detail. Words used are likely to be basic and repetitive.

For writing, among the SEA-PLM participating countries Cambodia's average score was still lower than the average six countries (300). However, Cambodia's average score was slightly higher than that of Laos. Noticeably, Vietnam and Malaysia were still the two highest-scoring countries, with scores of 327 and 318, respectively. Figure 2.5 shows the average performance of all of the countries that participated in SEA-PLM 2019 in the writing domain.

Figure 2.5. Writing performance across SEA-PLM participating countries
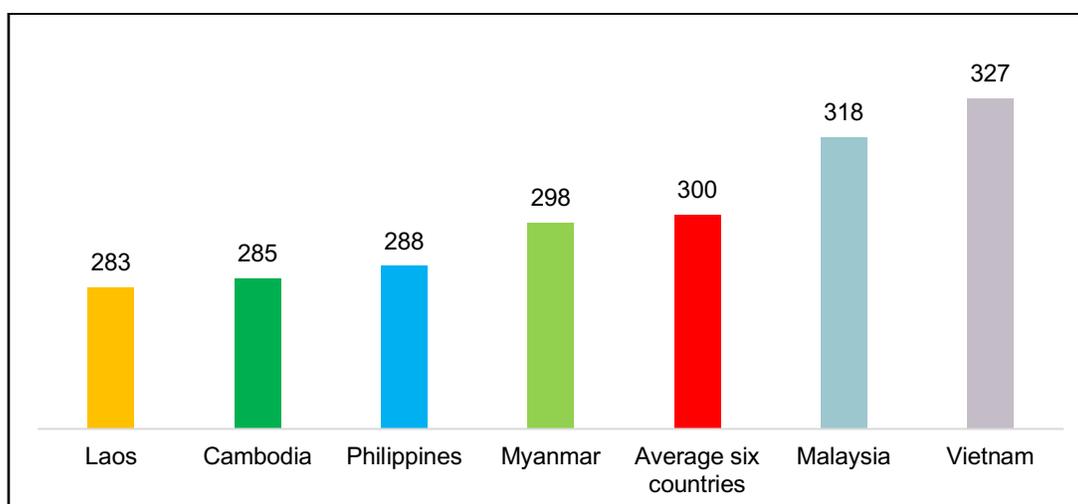
Source: SEA-PLM 2019 Main Regional Report

2.3.3. Writing performance distribution by SEA-PLM proficiency scale bands

Similar to the reading section, SEA-PLM uses a proficiency band to outline how scores correspond to different writing skills. For the writing domain, eight bands were produced based on the difficulty level of writing items and students' ability to perform these items (Table 2.2). Each level was named, starting from 'Band 1 and below' up to 'Band 8 and above'. Table 2.2 describes the writing skills that students are expected to demonstrate at each band, the associated scores for each benchmark and the percentage of Cambodian students who were located at each band.

Table 2.2. Description of writing bands

Band	Description of what students can typically do
Band 8 and above **(346 and above)** **1%**	**Write cohesive texts with detailed ideas and a good range of appropriate vocabulary** Students in this band can produce texts that draw on a wider world context, with relevant, detailed and sometimes imaginative ideas. They can write texts with an introduction, body and conclusion in which ideas are well related and easy to follow. For example, they can provide a clear overall description of a detailed image. These students can write using a polite, formal style, and a good range of appropriate vocabulary, with a degree of sophistication.

Band 7 **(338 to less than 346)** **1%**	**Write clear, detailed texts in various contexts with adequate vocabulary** Students in this band can produce texts that relate to the wider world, local and personal contexts, expressing ideas that go beyond mere description to include some persuasive or evaluative aspects. Ideas are well related and easy to follow, using sentences that are varied in structure and often correctly formed. Students can produce some complex sentences but these may contain errors. When writing about a personal context, for example about a favourite activity, they can use vocabulary that goes beyond the basic, to produce some interesting descriptive elements.
Band 6 **(327 to less than 338)** **3%**	**Write simple texts for a range of purposes with above basic vocabulary** Students in this band can produce texts that relate to local and personal contexts, presenting simple writing with some supporting details. Students in this band produce sequenced writing, which a reader can follow easily, but they are still learning to use linguistic devices to create cohesion within their texts. At this level, students' vocabulary is basic and beyond; it may be adequate to convey the detail of a message, for example in a short, formal note.
Band 5 **(316 to less than 327)** **7%**	**Write non-cohesive basic texts for a range of purposes, using simple vocabulary** Students in this band can write texts such as notes, descriptions and narratives, in a range of contexts, with well controlled handwriting. They can communicate ideas in simple writing, obviously related to the task, with some attempt at detail. Their ideas are generally expressed in a logical sequence that is relatively easy to follow but may not be adequately linked with connecting words, or may lack an introduction or conclusion. A description of a detailed image, for example, may describe a range of elements in the picture with some detail, but not comprise an integrated whole. Sentence forms are generally simple and may be repetitive, or may be more complex but contain errors, although students can form correct questions, and punctuation is usually correct. Students in this band can use vocabulary that is sufficient to convey a range of concepts, but lacks precision or clarity.
Band 4 **(306 to less than 316)** **10%**	**Produce limited writing, conveying simple ideas with basic vocabulary** Students in this band can produce limited writing related to the task, presenting simple ideas, but lacking elaboration or detail. In a task such as writing basic instructions, they can present a process clearly, using three or four well-formed but simple sentences, and the correct form of imperative language for instructions. Basic vocabulary may limit students' ability to convey detail at this level.

Band 3 **(296 to less than 306)** **14%**	**Produce very limited writing, with simple, insufficient ideas and limited vocabulary** Students in this band can produce limited writing relating to personal or local contexts. Ideas may be very simple, irrelevant or incomplete. They may be disjointed so that the text is difficult to follow. In writing a simple story, for example, there may be some sense of sequence but it is not consistent or always clear. Students at this level display some competence in using a polite style, and can form questions. These students can produce simple or repetitive sentences that use repetition of pronouns or nouns to link ideas. Their handwriting is legible, with most letters (or characters) well-formed. Basic vocabulary at this level is inadequate to convey a good description, or may be repetitive.
Band 2 **(287 to less than 296)** **14%**	**Produce very limited writing, with fragmented ideas and inadequate vocabulary** Students in this band can write in a limited way. Ideas can be unclear, irrelevant, limited or consist of fragments only. These students may be able to write one simple correct sentence, or produce incomplete sentences or sentences containing many errors and inconsistent punctuation. Sentence structure is likely to be repetitive. At this level, students' vocabulary is basic and inadequate to convey a clear message, or is very repetitive.
Band 1 and below (less than 287) **50%**	**Limited ability to present ideas in writing** Students in this band may be able to produce a few sentences with very limited content. When trying to describe a picture, for example, they may focus on only a few isolated features or produce extremely general ideas. They can produce some imperative language, but it is inconsistent. The limited range of vocabulary accessed by students in this band would be inadequate to describe a picture. Words used are likely to be basic and repetitive.

Table 2.2 shows that for writing ability, about half of Grade 5 students in Cambodia were placed in Band 1 and below. Only about 2% were in the highest bands, Bands 7, and Band 8 and above.

Figure 2.6 shows the weighted percentage of students in Cambodia in each of the writing proficiency bands. The figure also displays average percentages for all SEA-PLM countries and percentages for individual countries. The numbers included in each bar represent the highest band reached by pupils in that country, expressed as a percentage of that country's sample.

About half of Grade 5 students from Cambodia, Laos and the Philippines (50%, 52% and 45%, respectively) were in 'Band 1 and below'. Students in this band are considered to have limited ability to present ideas in writing. Again, the best-performing students were those from Vietnam, followed by Malaysia.

Figure 2.6. Percentage of students in each writing band by participating countries[1]

Country	Band 1 and below	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8 and above
Cambodia	50%	14%	14%	10%	7%	3%	1%	1%
Laos	52%	11%	12%	11%	8%	4%	1%	1%
Malaysia	7%	5%	11%	19%	26%	20%	7%	4%
Myanmar	25%	14%	21%	21%	13%	4%	1%	0%
Philippines	45%	12%	15%	12%	9%	4%	1%	1%
Vietnam	4%	4%	8%	13%	20%	20%	12%	20%
Average six countries	30%	10%	14%	14%	14%	9%	4%	5%
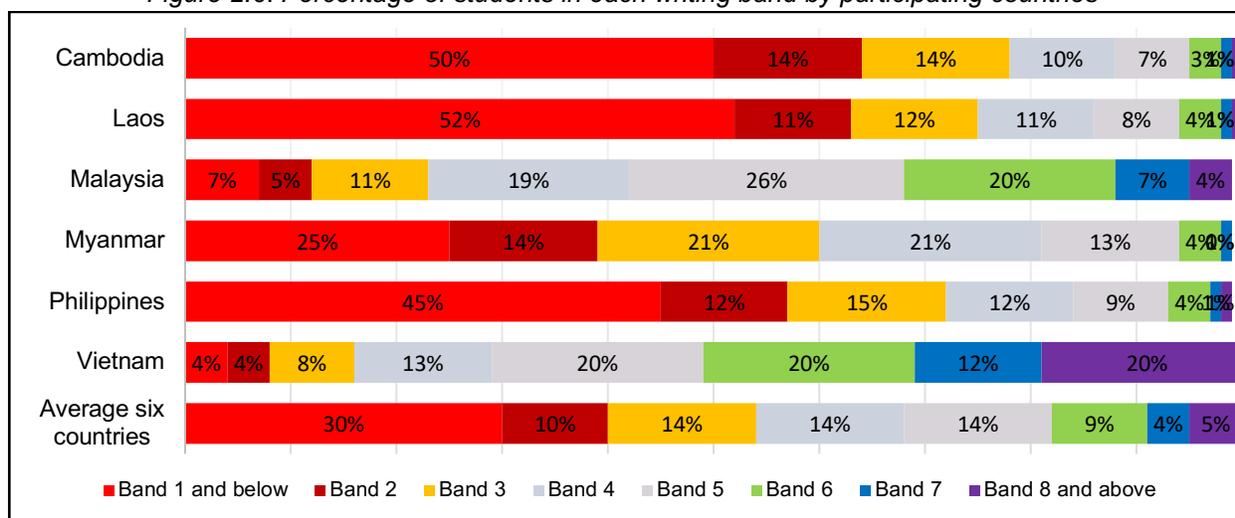
Note: There was no minimum proficiency level suggested by SDG 4 in relation to writing skills.
Source: SEA-PLM 2019 Main Regional Report

2.4. Mathematics literacy

2.4.1. What is mathematics literacy in SEA-PLM?

An understanding of mathematics is central to a young person's future educational success and their preparedness for life beyond school. The primary focus of SEA-PLM in mathematics is on a broadly defined set of mathematical skills and processes, and in particular, on the extent to which students are able to make use of their mathematical knowledge and skills to solve problems and deal with the kinds of challenges they meet in a variety of contexts where mathematics may be relevant to those problems and challenges.

A set of underlying skills or competencies is a primary driver of students' ability to effectively use their mathematical knowledge in a variety of contexts. Students need communication skills, both to recognize and process information and to express their reasoning and conclusions. Mathematical literacy often requires students to devise strategies for solving problems. This involves a set of critical control processes that guide an individual to recognize, formulate and solve problems, and to monitor and direct their progress through the solution process. When dealing with problems presented in various contexts, students need to be able to transform the information as presented into a mathematical form ready for the application of relevant procedural knowledge, and when mathematical results and conclusions are found, these often need to be interpreted in relation to the original context. These steps of transformation and interpretation are often referred to as steps in the mathematization process. Students need to be able to work with different representations of mathematical objects and information, such as graphs, tables, charts, diagrams, symbolic expressions and the like. Students need to develop reasoning and argumentation skills in order to explore and link problem elements, make inferences, and justify conclusions. Students need a repertoire of specific procedural knowledge and skills, and to recognize when a particular piece of knowledge might be relevant to the problem at hand. Therefore, they need to be able to use symbolic, formal and technical language and operations in order to interpret, manipulate and make use of symbolic expressions within a mathematical

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[1] There is a note that the cumulative sum of percentages from each band for some countries, like Malaysia, Myanmar and the Philippines, did not equal 100%. This refered to the data mentioned in the SEA-PLM 2019 Main Regional Report.

context that is governed by various conventions and rules. This may also involve using mathematical tools that might be relevant to a particular problem situation, such as measuring instruments, calculation devices, computer-based tools, knowing when a particular tool would be appropriate, and the limitations of such a tool.

These competencies are fundamental to mathematical literacy and are called on to varying degrees by the SEA-PLM assessment tasks. The competencies are based on work originally done by Mogens Niss.

The SEA-PLM mathematical literacy framework reflects current best assessment practice as reflected, for example, in the OECD PISA mathematical literacy framework (OECD, 2013), but is oriented to include the specific interests of a SEA-PLM at Grade 5. As such, it includes precursor skills such as fundamental mathematical concepts (for example, magnitude, the use of positional and relational language), as well as knowledge typically developed in the primary schooling years: numeration, arithmetic operations, classification of objects, shape recognition, elementary algebraic thinking (for example, simple number sentences), measurement, and the use and interpretation of data.

> *SEA-PLM 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).

The term mathematical literacy is used to emphasize that the focus is on using mathematical knowledge and skills (including those learned in the mathematics classroom) to solve problems that arise in contexts beyond the classroom.

2.4.2. Performance in mathematics

The average mathematics score of Cambodian Grade 5 students was 289. This puts the average performance of students within Band 4 of the SEA-PLM Mathematics proficiency scale. Notably, students in Band 4 were defined as being able to apply number properties and units of measurement. Students in Band 4 can find half of a one-digit even number and understand place value in five-digit numbers. They can solve a problem involving capacity that does not involve conversion of units. They can apply their knowledge of the number of minutes in an hour. Students can read a value from a bar graph.

Among the SEA-PLM participating countries, Cambodia's average mathematics score was still lower than the average six countries (300). However, Cambodia's average score was slightly higher than the average scores of the Philippines and Myanmar, but about 10 points higher than the average score for Laos. Still, Vietnam and Malaysia are the two highest-scoring countries, with scores of 341 and 315, respectively. Figure 2.7 shows the average performance of all of the countries that participated in the SEA-PLM 2019 mathematics domain.

Figure 2.7. Mathematics performance across SEA-PLM participating countries
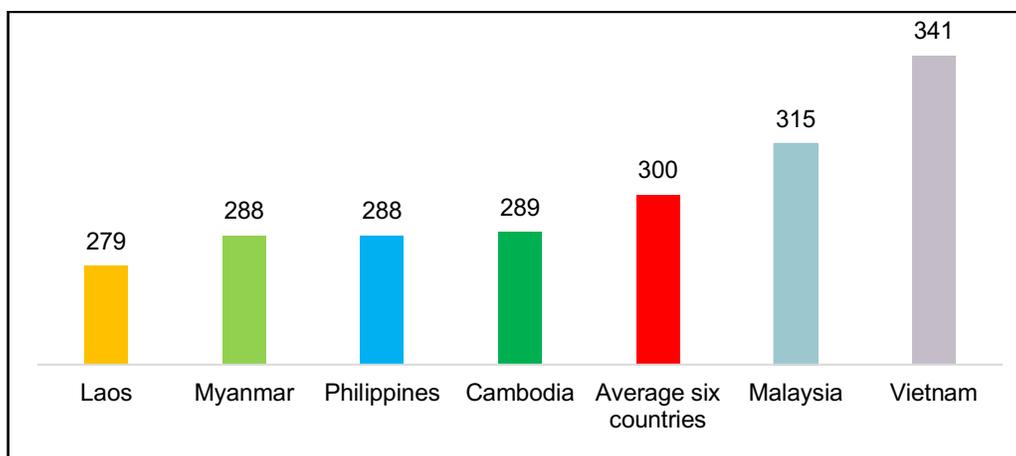
Source: SEA-PLM 2019 Main Regional Report

2.4.3. Mathematics performance distribution by SEA-PLM proficiency scale bands

As with the reading and writing sections, SEA-PLM uses a proficiency scale to show how scores correspond with different mathematics skills. According to the SEA-PLM experts, eight bands were produced based on the difficulty level of mathematics items and students' ability to perform these items (Table 2.3). Each level was named, from Band 2 and below up to Band 9 and above. Band 1 was reserved for the future expansion of SEA-PLM (UNICEF & SEAMEO, 2020b). Table 2.3 describes the mathematics skills that students are expected to demonstrate at each band, the associated scores for each benchmark and the percentage of Cambodian students in each band.

Table 2.3. Description of mathematics bands

Band	Description of what students can typically do
Band 9 and above (347 and above)	There are too few items to comprehensively describe what students operating above Band 8 can do. However, they can reason about triangles to find an unknown side length using information about the perimeter. They can solve problems using frequency distributions.
Band 8 (334 to less than 347) **1%**	**Think multiplicatively, convert between units** At Band 8, students can solve problems by adding fractions with the same denominator, and by dividing a decimal number by a one-digit number. They can continue a pattern involving decimals. They can convert from fractions of hours to minutes and they can calculate the difference between lengths involving metric conversion. They can solve problems using many-to-one pictographs.
Band 7 (321 to less than 334) **5%**	**Apply fractions and percentages, and analyse data representations** Students in Band 7 can calculate a percentage and a simple fraction of a number. They can identify the rotation of a design by half a turn. Students can find the missing value in a table using a given total and calculate a missing percentage value on a pie chart.

Band 6 (308 to less than 321)	Perform mathematical operations, including with fractions, and interpret tables and graphs
12%	At Band 6, students can convert a fraction in tenths to its decimal equivalent. They have a firm grasp of place value and rounding in numbers up to five digits. Students can solve problems involving measuring devices requiring conversion of metric units of length and capacity. They can calculate the mass of objects using a balance. Students can add 30 minutes to a given time. They can visualize three-dimensional objects from two-dimensional representations and interpret a simple map using directional language. Students can interpret a frequency table and a line graph showing growth over time.
Band 5 **(295 to less than 308)** **21%**	**Fluently solve arithmetic problems** Students in Band 5 can add four-digit numbers and subtract two-digit numbers in context, and they can identify a five-digit number given in words. Students can continue simple counting and shape patterns. They can model scenarios with multiplication and division. They understand the process of taking half of a quantity. They can interpolate capacity from a marked cylinder and can compare angles to a right angle. They can estimate the mass of an object. Students can read numbers from a table and add them. They understand the structure of a bar graph showing amounts over time.
Band 4 **(282 to less than 295)** **25%**	**Apply number properties and units of measurement** At Band 4, students can find half of a one-digit even number and understand place value in five-digit numbers. They can solve a problem involving capacity that does not involve conversion of units. They can apply their knowledge of the number of minutes in an hour. Students can read a value from a bar graph.
Band 3 **(269 to less than 282)** **20%**	**Understand place value and scales of measurement** Students at Band 3 can order two-digit numbers. They can read length and mass measurements from scales requiring some interpolation. Students can recognize simple shapes and compare angles. They can interpret a simple bar graph.
Band 2 and below **(less than 269)** **16%**	There are too few items to describe what students operating below Band 3 can do. Some students might be able to add single-digit numbers together, others might only be able to count a small collection of objects or recognize numbers.

Table 2.3 shows that close to three quarters (73%) of Grade 5 students in Cambodia master the knowledge and skills described in Bands 2 and below, 3 and 4, while the remaining 27% obtained a score that places them in Band 5 and Band 6 and above.

Figure 2.8. Percentage of students in each mathematics band, by participating country[2]
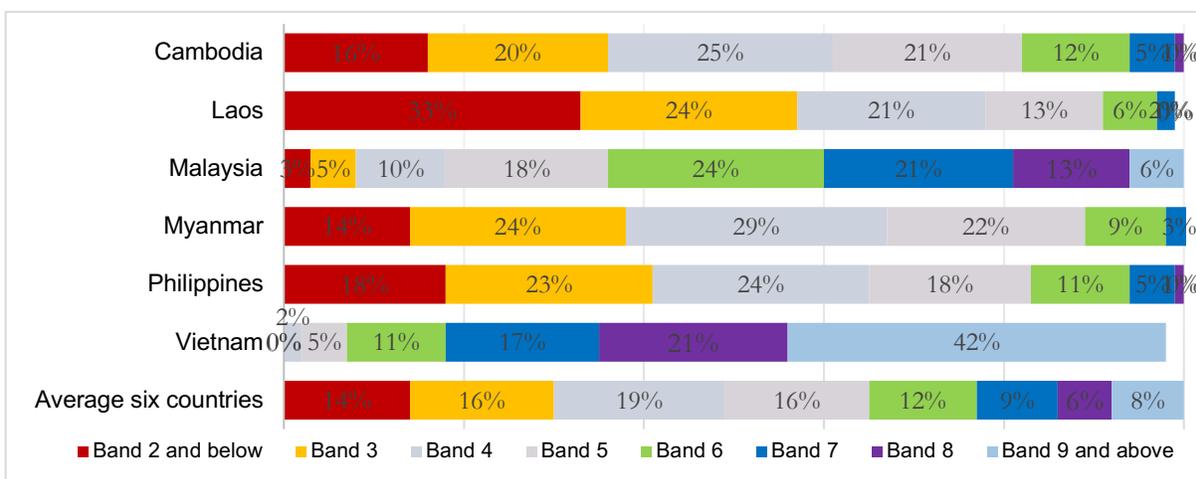
Source: SEA-PLM 2019 Main Regional Report

Figure 2.8 shows the weighted percentage of students in Cambodia in each of the mathematics proficiency bands. The figure also indicates the average percentages for all SEA-PLM countries and the percentages for individual countries. The numbers included in each bar represent the highest band reached by pupils in that country, expressed as a percentage of that country's sample.

As the figure indicates, Cambodian Grade 5 students performed similarly to students from Myanmar and the Philippines, as well as the average six countries. Notably, the best performance went to students from Vietnam, followed by Malaysia, while students from Laos performed lower than the average six countries.

2.4.4. Mathematics performance distribution against SDG indicators

The main SEA-PLM regional report stated that SEA-PLM 2019 mathematical proficiency measures can be used to report against the SDG Education target (SDG 4.1) through their alignment with indicators SDG 4.1.1a and SDG 4.1.1b.

SDG 4.1.1a

The SDG 4.1.1a indicator is minimum proficiency in mathematics for '***end of lower primary***' as:

- Nutshell statement

    Students demonstrate skills in number sense and computation, reading simple data displays, shape recognition and spatial orientation. (ACER-GEM&UIS-GAML, 2019, p25)

- Expanded statement

    Students can read, write and compare whole numbers up to 100. They can add and subtract numbers within 20 and solve application problems involving numbers within 20. Students can recognize simple shapes and their elements. They can read simple data displays. They possess foundational knowledge of spatial orientation, and can appraise the relative size of real-world objects. (ACER-GEM&UIS-GAML, 2019, p25)

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[2] Similar to writing, the cumulative sum of the percentages from each band for some countries, such as Laos and Vietnam did not equal 100%. This referred to the data mentioned in the SEA-PLM 2019 Main Regional Report.

Students operating in SEA-PLM Band 4 and above are considered to have a mathematical proficiency that meets or exceeds this 'end of lower primary' indicator. Students in Band 3 and below have not yet met this standard, even after having attended at least five years of school.

Figure 2.9 shows the proportion of students in the SEA-PLM 2019 participating countries who reached the minimum mathematics standard suggested by SDG 4.1.1a.

The figure indicates that 64% of Cambodian Grade 5 students met the minimum proficiency level suggested by SDG 4.1.1a, which is similar to those from Myanmar, the Philippines and the average six countries. Overall, nearly two thirds of Grade 5 students in each SEA-PLM 2019 participating country reached or exceeded the minimum mathematics proficiency suggested by SDG 4.1.1a, except those from Laos (where only 42% of students reached this threshold). The country with the highest proportion of students who had met this minimum proficiency level was Vietnam, followed by Malaysia.

Figure 2.9. Percentage of Grade 5 students who had met the minimum proficiency in mathematics for the end of lower primary, by country
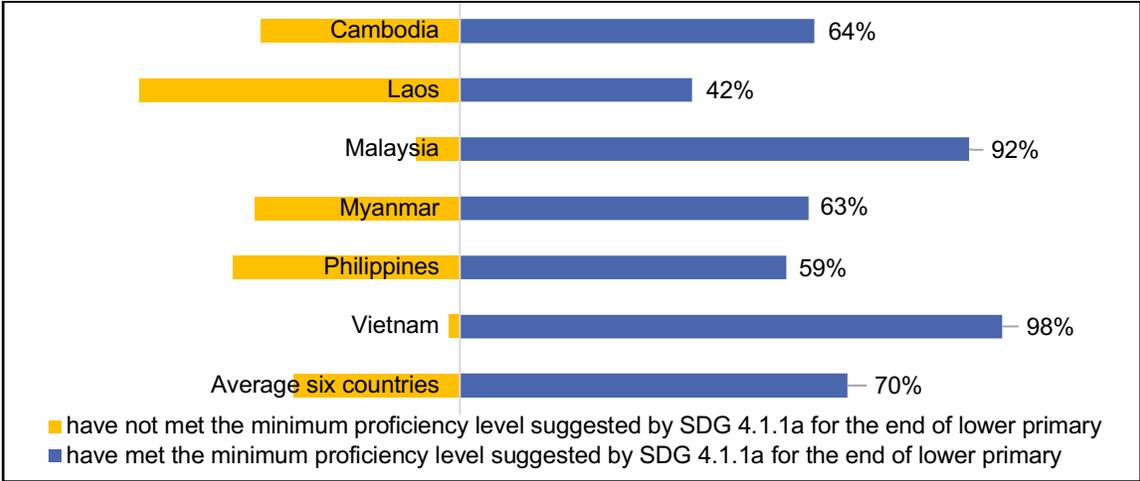
Source: SEA-PLM 2019 Main Regional Report

SDG 4.1.1b

The SDG 4.1.1b indicator defines minimum proficiency in mathematics for '**end of primary**' as:

- Nutshell statement

  Students demonstrate skills in number sense, computation, real-world problems, basic measurement, 2D shape recognition, and reading and interpreting simple data displays. (ACER-GEM&UIS-GAML, 2019, p29)

- Expanded statement

  Students can add and subtract whole numbers within 1,000 and demonstrate fluency with multiplication facts up to 10 x 10 and related division facts; solve simple real-world problems with whole numbers using the four operations (consistent with the grade and performance level) and identify simple equivalent fractions; select and use a variety of tools to measure and compare length, weight and capacity/volume; understand the relationships between different units of time, e.g. seconds, minutes, hours, days, weeks, months and years; retrieve multiple pieces of information from data displays to solve problems; recognize and name two-dimensional shapes by their simple attributes; and apply the concept of equivalence by finding a missing value in a number sentence. (ACER-GEM&UIS-GAML, 2019, p29)

Students operating in SEA-PLM Band 6 and above are considered to have a mathematical proficiency that meets or exceeds this 'end of primary' indicator.

Figure 2.10 shows the proportion of students in the SEA-PLM 2019 participating countries who reached the minimum mathematics standard suggested by SDG 4.1.1b.

Figure 2.10. Percentage of Grade 5 students who had met the minimum proficiency in mathematics for the end of primary, by country
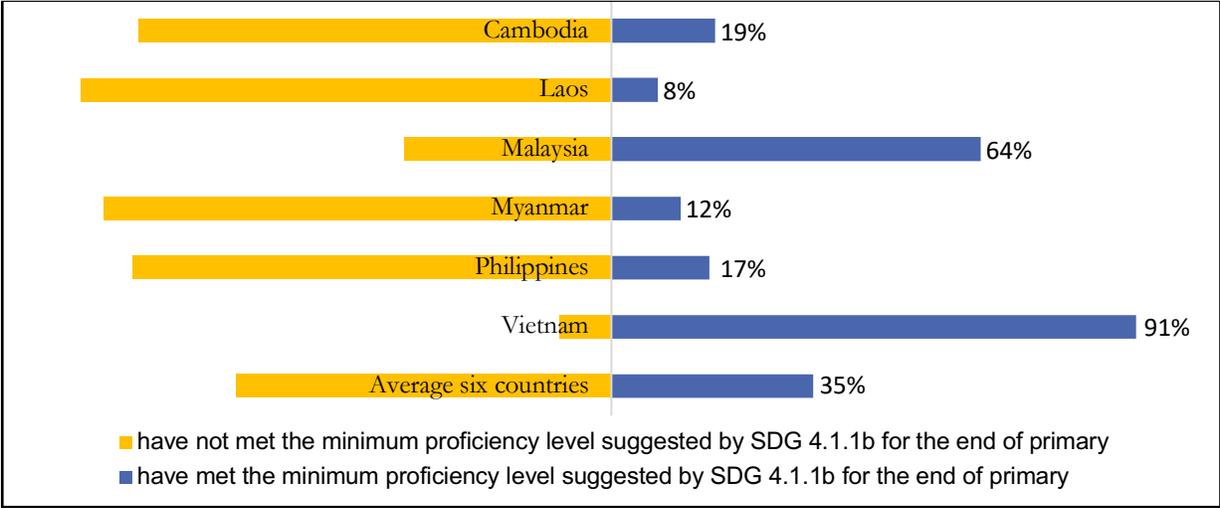
The figure indicates that 19% of Cambodian Grade 5 students had met the minimum proficiency level suggested by SDG 4.1.1b at the end of primary education, which is similar to those from the Philippines. If considering this from the highest performing country to the lowest performing country, Cambodia is placed in the middle, with Vietnam first, Malaysia second and Laos as the lowest-performing country of the six participating countries.

Cambodian Grade 5 students performed quite similarly to those from the Philippines and Myanmar, and similarly to the average six countries. Noticeably, the best-performing country was Vietnam, followed by Malaysia, as the majority of students from these two countries were placed in the highest level of proficiency bands in each domain.

When comparing this to SDG 4 indicators regarding reading and mathematics, around two thirds of Grade 5 students in Cambodia met the minimum proficiency level for ***the end of lower primary*** education suggested by SDG 4.1.1a in both the reading and mathematics domains (76% and 64%, respectively). There was also a notable amount of Cambodian Grade 5 students who met the minimum proficiency level for ***the end of primary*** education suggested by SDG 4.1.1b, in both reading and mathematics (11% and 19%, respectively).

Looking at the results of the SEA-PLM participating countries, Vietnam and Malaysia can be considered the best-performing countries, as they had the largest number of Grade 5 students who met the minimum proficiency standard suggested by SDG 4.1.1a and SDG 4.1.1b at the end of lower primary and at the end of primary education, respectively. Notably, Grade 5 students from Cambodia, the Philippines and Myanmar performed similarly, as the number of students who met the minimum proficiency standard in both levels was almost the same.

References

ACER-GEM&UIS-GAML. (2019). *Minimum Proficiency Levels, Described, unpacked and illustrated (GAML6/REF/2)*.

UNICEF & SEAMEO. (2017). *Assessment Framework for Southeast Asia Primary Learning Metrics (SEA-PLM) (1st edition)*. SEAMEO.

UNICEF & SEAMEO. (2020a). *SEA-PLM 2019 Main Report: Children's learning in 6 Southeast Asian Countries*.

UNICEF & SEAMEO. (2020b). *Development of the SEA-PLM scales for the cognitive and contextual instruments*. Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat.

Chapter 3. Students' performance in reading, writing and mathematics by background and context characteristics

3.1. Introduction

The authors of the famous Coleman Report (1966) concluded that academic performance was strongly linked to students' family background, but not so much any measurable school characteristics. These results were the subject of intense debate in the decades following the report's publication. Many academics resisted this position and articulated the ways in which schools reinforce or even promote inequality (e.g., Bourdieu 1977; Bowles and Gintis 1976), while others (see, for example, Teddlie and Reynolds, 2000) developed a research program dedicated to demonstrating that schools do matter when it comes to explaining students' performance (i.e. school effectiveness).

This chapter presents findings on the average performance of Cambodian Grade 5 students in reading, writing and mathematics in relation to different background characteristics, including both student background characteristics and school variables. It also includes descriptive statistics of teachers in the schools selected to participate in SEA-PLM.

3.2. Student and home characteristics

This section describes Grade 5 students' and homes' characteristics associated with their learning achievement. These characteristics include gender, age, language spoken at home, number of siblings, grade repetition, participation in preschool education, parents' expectations of their children's education, parents' education and occupation, and parental engagement towards schooling.

3.2.1. Student by gender

As shown in Figure 3.1, the number of boys and girls randomly selected in the SEA-PLM 2019 was very similar, although on average, girls (51.3%) slightly outnumbered boys (48.7%). This discrepancy is consistent with the Grade 6 student national assessment, which reports girls at 55.4.% and boys at 48.1% (MoEYS, 2016). Similarly, PISA-D 2017 reported that girls' participation was 52.8% and boys' participation was 47.1% (MoEYS, 2018).

Figure 3.1. Percentage of students by gender
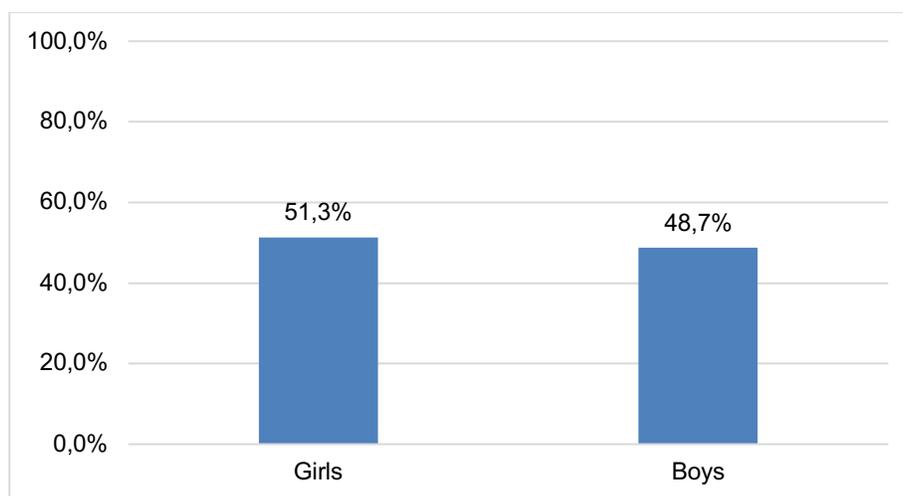
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.2. Language spoken at home

Speaking a different language at home from the language of assessment is one of the barriers to learning that students must try to overcome. In Cambodia, the language of instruction from Kindergarten to Grade 12 is Khmer (95.8%) (see Figure 3.2). The results of the SEA-PLM show that only about 4% of Grade 5 students reported speaking a different language at home (in most cases, the other languages were English, French and Chinese).

Figure 3.2. Percentage of students by language category
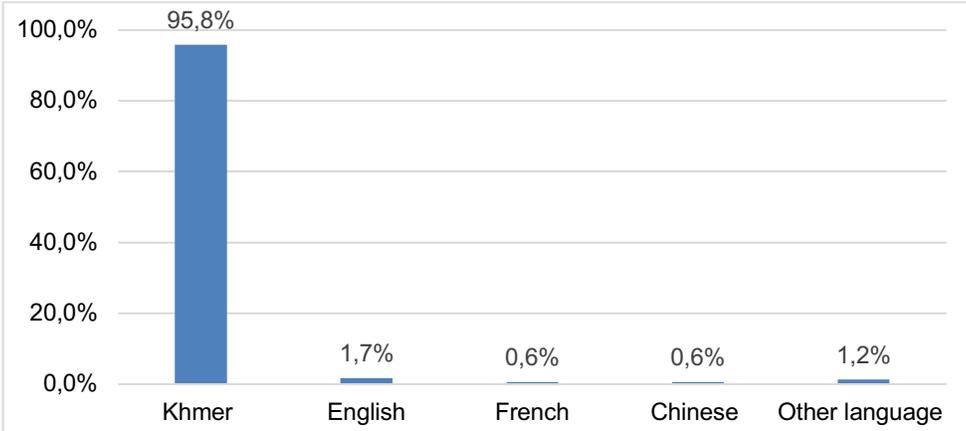
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.3. Number of siblings

The Grade 5 students who participated in SEA-PLM 2019 were asked about the number of siblings in their family. On average, Cambodian students have 2.2 siblings, and most of them were living in families with "one to four siblings" (about 84%). A similar percentage of students reported having "none" and "more than four" siblings (8.1% and 8.4%, respectively) (Figure 3.3).

Figure 3.3. Percentage of students by number of siblings
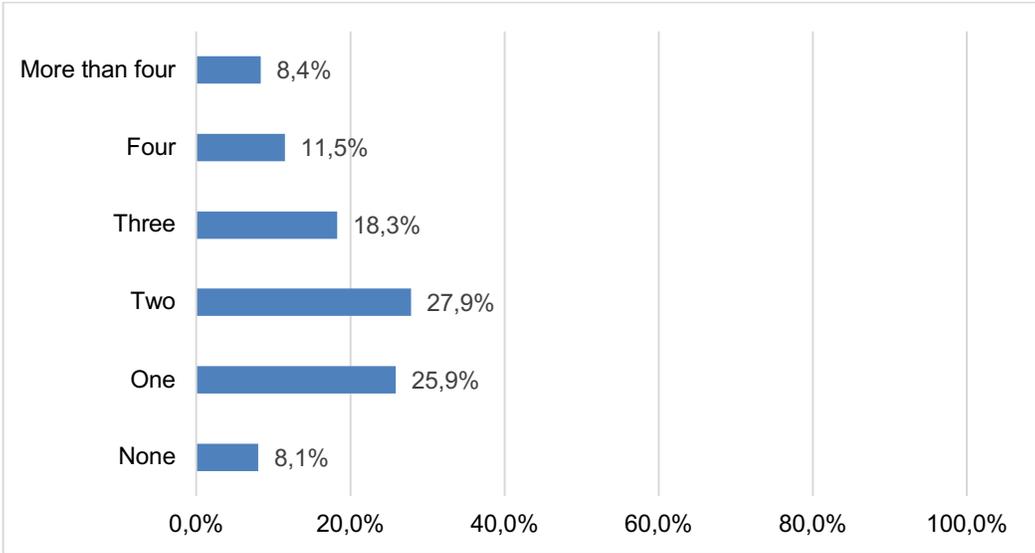
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.4. Students' age

The SEA-PLM 2019 questionnaire asked students to complete their year and month of birth. The age of the student was calculated by subtracting the testing date from the birth date of each student. The average age of Grade 5 students at the testing date was 11.63 years. In the academic year 2018/19, this average was 11.14 years. On average, boys were older than girls by about 0.22 years or 2.6 months. According to the Cambodian Education Law (Royal Kram 2007), children should be enrolled in Grade 1 when they are 70 months old (approximately 6 years old). So, students should be between 10.50 and 10.82 years old when they are in Grade 5 (normative age). In Figure 3.4, students are divided into three groups: those who are in the normative age, those below the normative age (under age) and those above the normative age (over age). Only 12.2% of the students who participated in SEA-PLM 2019 were in the normative age range, 11.6% of students were under age, and the majority were classified as over age. This suggests that the majority of students in Cambodia have been affected by factors like late entry, repetition or temporary dropout.

Figure 3.4. Percentage of students by age
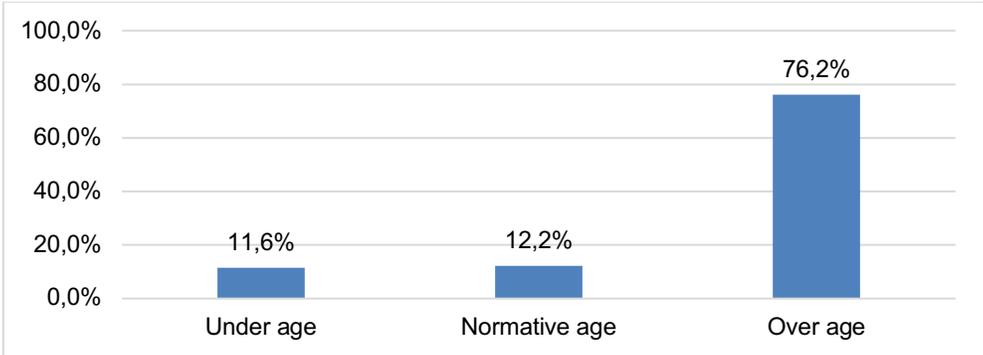
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.5. Students' age at the beginning of primary school

Regarding the age of students starting class, Figure 3.5 shows that 65% of parents reported sending their children to primary school when they were 6 years old. This finding is expected, as it is a normative age required by the Cambodian Education Law (Royal Kram 2007). However, the proportion of over-age students (7 years old and older) is relatively high (19.4%) in Cambodia. This finding indicates late enrolment in primary education, which remains a key challenge in the Cambodian education system.

Figure 3.5. Students' age at the beginning of school
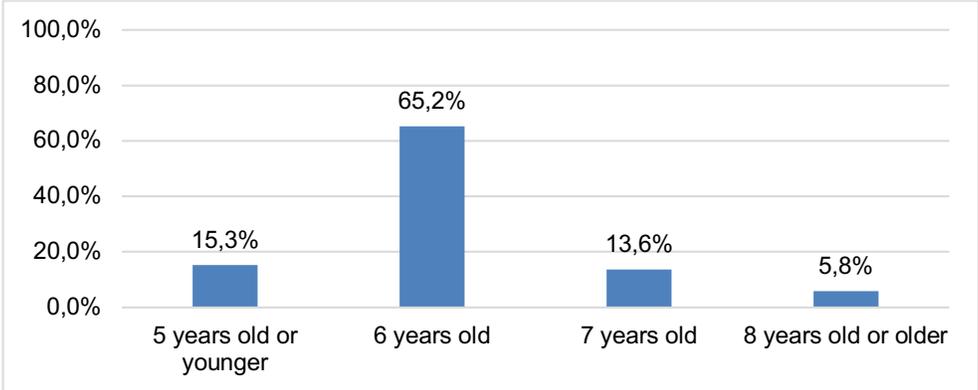
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.6. Preschool education

Attending preschool education is considered the first step in a child's educational journey. Cambodia's education system is divided into three stages: lower-level, medium-level and high-level preschool (MoEYS, 2018). Many studies recognize that students who attended preschool performed better in both primary and secondary education than those who did not attend preschool education at all (MoEYS, 2017; & Rao & Pearson, 2007). As shown in Figure 3.6, Grade 5 students who reported that they did not attend preschool at all represent about 42% of the students, followed by those who attended preschool for one year (34.7%) and those who attended preschool for two years or more (23.7%).

Figure 3.6. Percentage of students by attending preschool
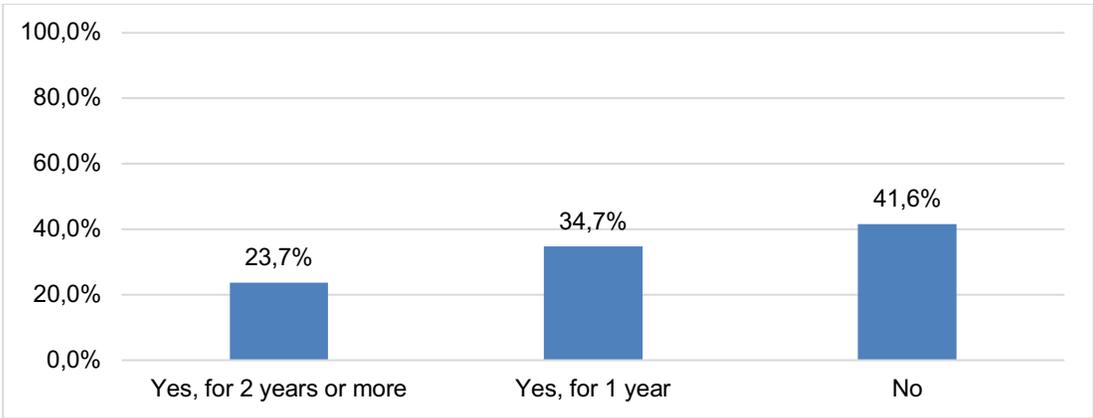
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.7. Grade repetition

The SEA-PLM student questionnaire asked students to report on whether they had repeated Grade 1, and 33% of Grade 5 students reported having done so. The results are shown in Figure 3.7. The repetition rate of boys and girls were 35.4% and 30.7% respectively. The repetition rate of boys is about 1.2 times of the girls' repetition rate. This result is similar to the data on enrolment and repetition of students in Grade 1, published in the education statistics and indicators for 2014-2015 (MoEYS, 2015) for the academic year 2013/14. This showed that the repetition rate of boys was about 1.4 times of the girls'. In both cases, their repetition rates were remarkably high, which concurs with the results.

Figure 3.7. Percentage of students by Grade 1 repetition
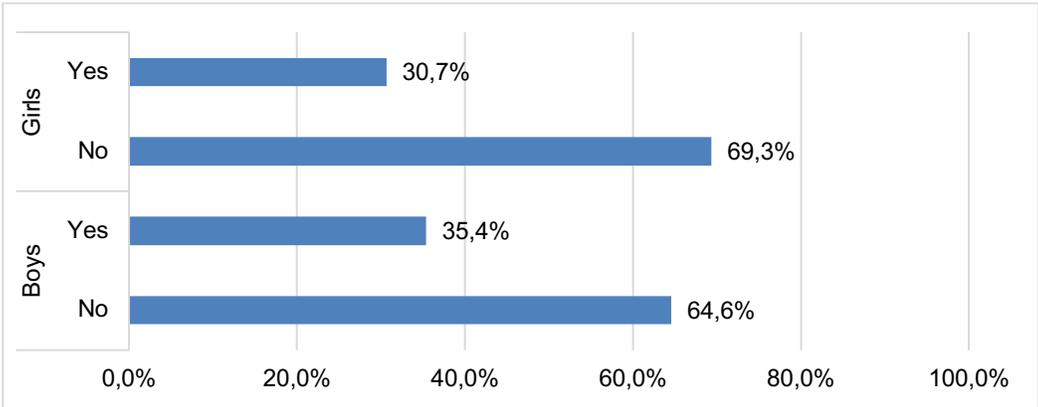
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.8. Parents' expectations for their children's education

It is well known that parents' expectations of their children's education can contribute to student achievement and students staying longer in school. Teachers' expectations have a similar influence (Lindberg et al., 2019; Davis-Kean, 2005 & Christine, n.d.). Christine (n.d.) highlighted that low expectations of parents did not reflect children's abilities, rather parents' lack of understanding of the school system. It was suggested that a policy intervention was needed to engage parents in their children's education, so that they could understand the school system and have higher expectations of their children's educational attainment.

Figure 3.8 shows that approximately 90% of parents expected their children to complete education at lower and upper secondary level, and higher education level. However, few parents in Cambodia expected their children to complete only primary education (2.3%) or lower secondary education (7.8%). About 43% of parents expected their children to complete upper secondary level, 8.8% expected them to complete vocational training/post-secondary education, and 37.8% expected them to complete higher education. Following previous research findings, the low number of parents expecting their children to complete higher education may be due to their lack of understanding of the school system.

Figure 3.8. Percentage of students by parents' expectation for their children's education
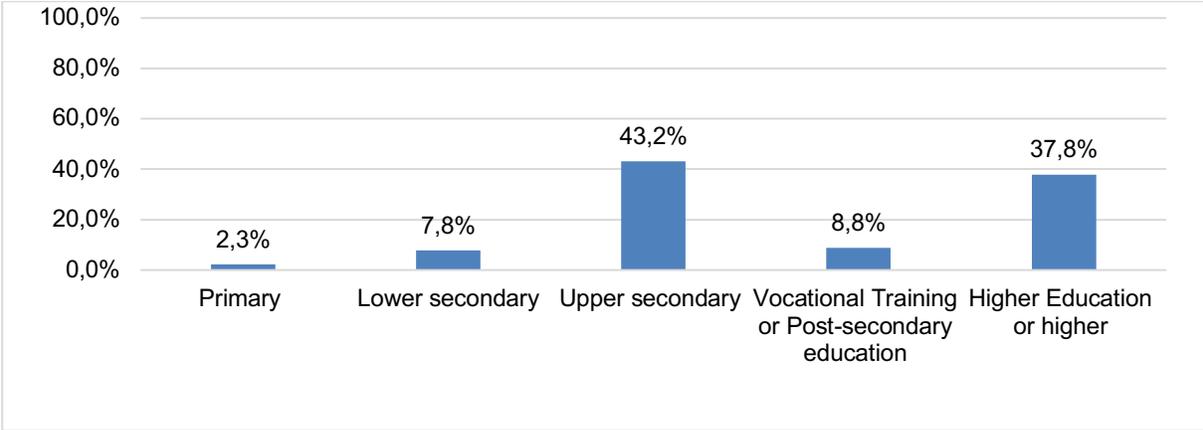
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.9. Students' attitudes towards school

The SEA-PLM 2019 questionnaire asked students in Grade 5 about their attitudes towards school. Figure 3.9 presents the proportion of students who agreed or strongly agreed to the below statements. Most students indicated positive attitudes towards school. More than 90% of students (94.1%) said they 'liked being at school', followed by 'learning useful things' (89%), 'feeling safe' (88.1%) and 'making friends easily' (82.4%). The statement 'belonging to school' received the lowest response, although its percentage is relatively high (77.6%). Cambodia reported similar findings in PISA-D 2017, in which students from both socio-economically advantaged and disadvantaged backgrounds reported having positive attitudes towards school and learning (MoEYS, 2018).

Figure 3.9. Percentage of students by student attitude to school
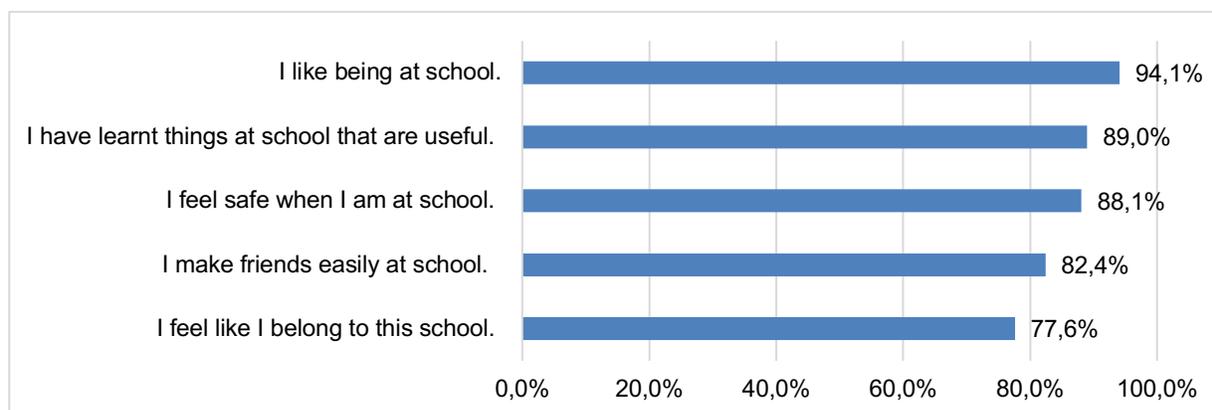
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.10. School readiness in Khmer language and mathematics

This section refers to the tasks that students in Grade 5 were able to do, in both Khmer language and mathematics before attending primary education, as reported by their parents. Based on the results described in Figure 3.10, at least 52.6% of Cambodian students were able to recognize different shapes regarding mathematical tasks prior to primary education. There were three tasks that more than 90% of students could do: 'recognize their names' (98%), 'count by themselves up to 10' (96.3%), and 'recognize colours' (90.1%). Fewer than 70% of children could 'recognize most of the letters of the alphabet' and 'recognize different shapes'. Based on parents' responses, most children were ready to start primary education by the time they were enrolled in first grade.

Figure 3.10. Percentage of students by ability to perform Khmer language and mathematical tasks prior to primary education
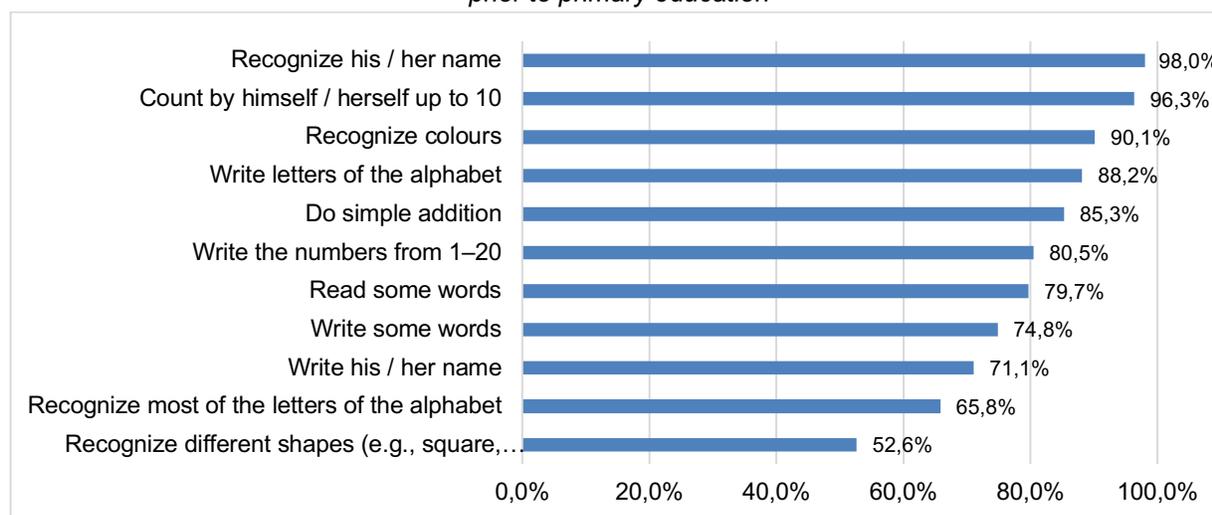
Source: Authors' own calculations from SEA-PLM 2019 Database

3.2.11. Responses to parents' questionnaire

Parents or guardians were asked to complete a parental questionnaire to provide additional contextual information related to the Grade 5 student learning environment. There were four different types of respondents: mother or female guardian (44.8%), father or male guardian (37%),

grandparent (11.6%) and other (6.6%). These results may reflect that in Cambodia, mothers or female guardians are more engaged with children's education than other adults in the household.

Figure 3.11. Percentage of students by parents' or guardians' responses
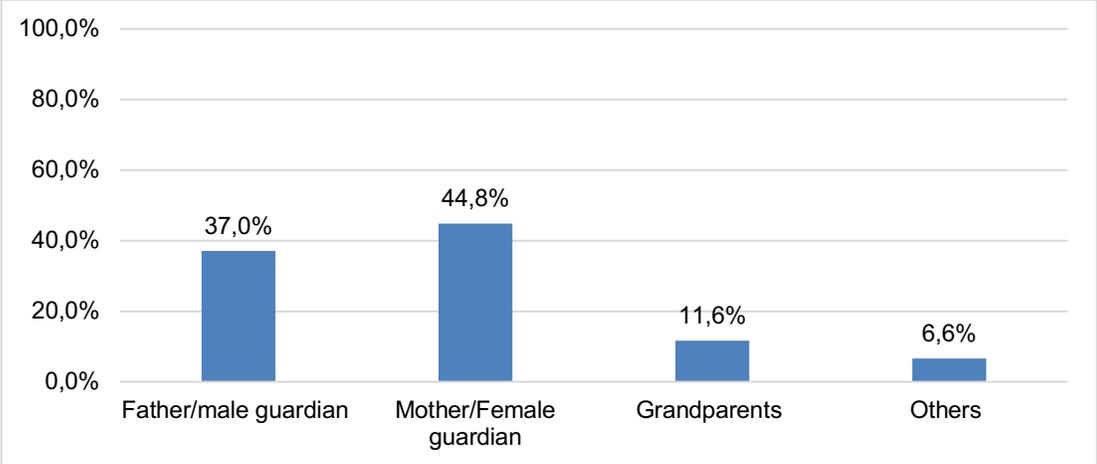
3.2.12. Parents' highest education level

As shown in Figure 3.12, most Cambodian parents' educational attainment is relatively low. About 50% of students had parents who had completed primary education or lower, followed by lower secondary level (28.8%). There were few students whose parents completed vocational training or post-secondary education (1.6%) and higher education (5.2%). As expected, parents' education seems to be associated with their expectation for their children's educational attainment in the future (see Figure 3.8).

Figure 3.12. Percentage of students by parents' highest education level
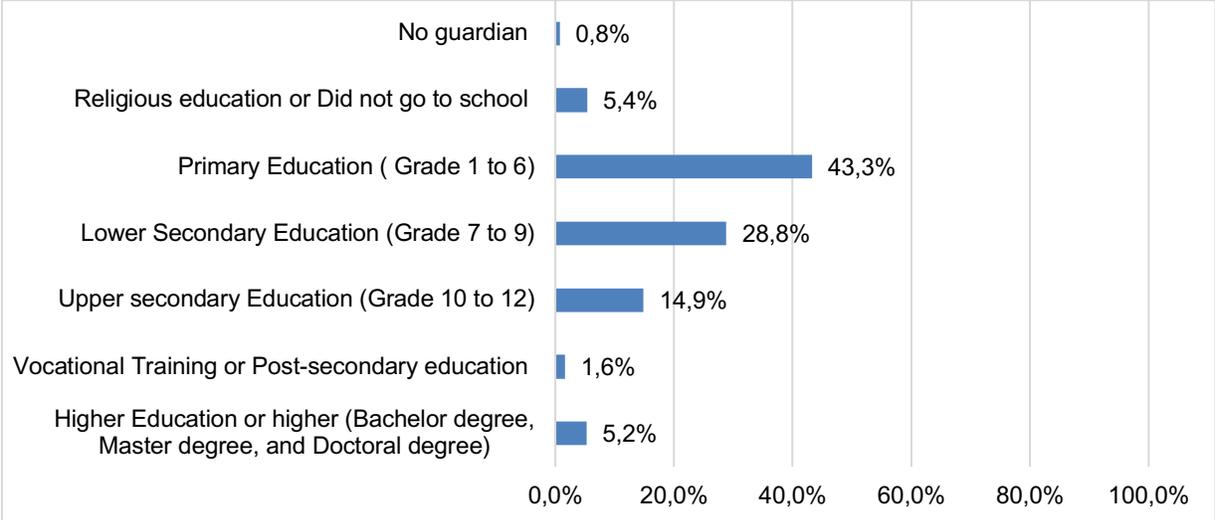
3.2.13. Highest parental occupation

Parents or guardians were asked about their occupations. Their responses were consistent with their educational attainment, which on average was not high enough to get higher positions at work places or run their own businesses (see Figure 3.12). Thus, as Figure 3.13 shows, most

students' parents were skilled workers, labourers or domestic helpers (71.1%). Some students had parents holding positions as professionals and managers, soldiers or police officers (5.3% and 3.1%, respectively). About 13.9% of students had parents who ran their own small businesses or worked as clerks.

Figure 3.13. Percentage of students by parental occupation
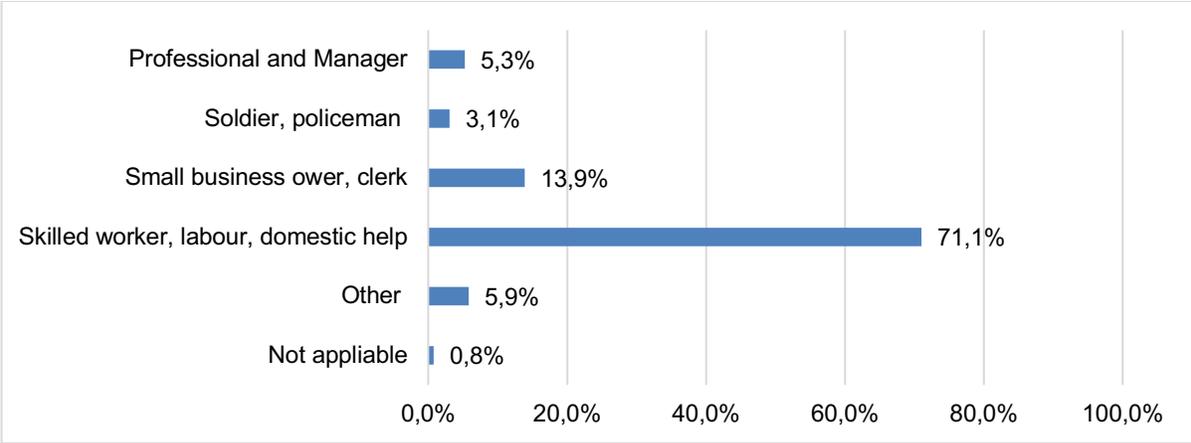
3.2.14. Parental engagement towards schooling

In SEA-PLM, students were asked about the frequency with which the following activities occurred at home. The response options were 'never or hardly ever', 'monthly', 'weekly', and 'daily or almost daily'. On average, in Cambodia, 50.7% of Grade 5 students reported that their 'parents motivated them to succeed in school' on daily basis, and 17.7% on a weekly basis, followed by 40.9% 'checking if doing homework' on a daily basis, and 23.3% on a weekly basis. Only 25.2% of Grade 5 students reported that their parents/guardians helped them with homework every day and 24.2% on a weekly basis.

Figure 3.14. Percentage of students, by activities at home
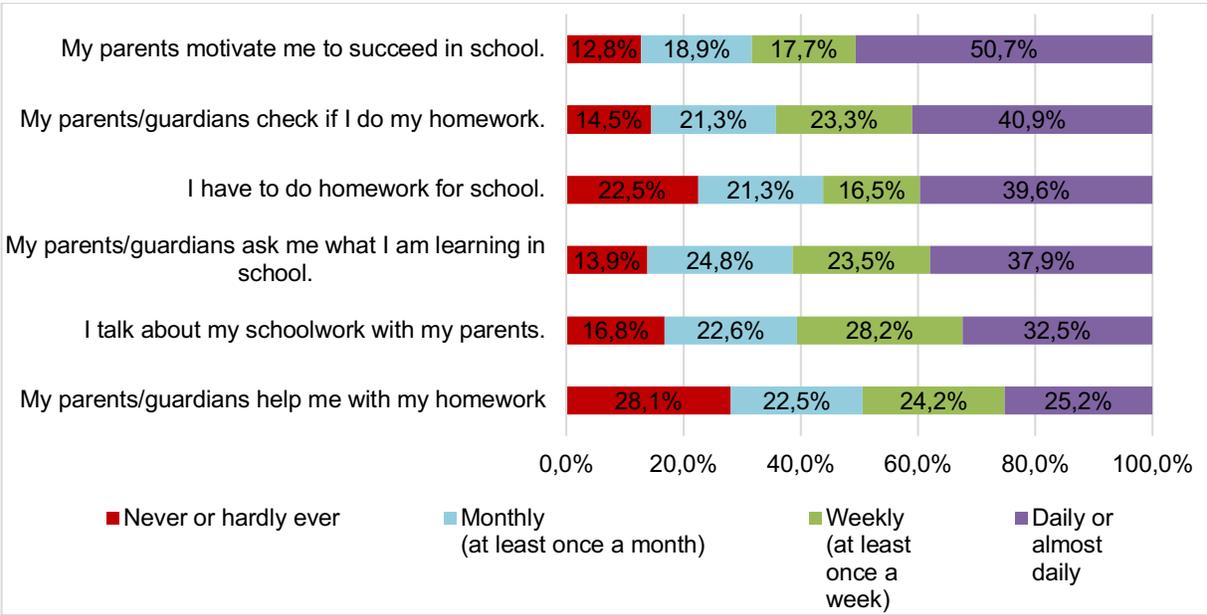
3.3. Students' performance by students' characteristics

This section presents the levels of performance in reading, writing and mathematics. It discusses the main indicators of inclusion, focusing on gender, socio-economic disparities, and variations in performance by age, language spoken at home, number of meals per day, educational attainment indicators, such as attending preschool, and repetition in Grade 1. It also describes the average performance of Cambodian Grade 5 students in relation to students' attitudes towards school and mathematics, parental engagement with schooling, and resources at home.

3.3.1. Gender gaps in performance

Gender differences in academic performance are well established in the literature, with most studies reporting differences in favour of girls from the early school years (e.g. Meinck and Brese, 2019). In all three academic outcomes evaluated in SEA-PLM, Cambodian girls have, on average, outperformed boys. As shown in Figure 3.15, Grade 5 girls outperform boys by 7 score points in reading, 12 score points in writing and 3 score points in mathematics. All differences are statistically significant.

Figure 3.15. Gender gaps in SEA-PLM 2019
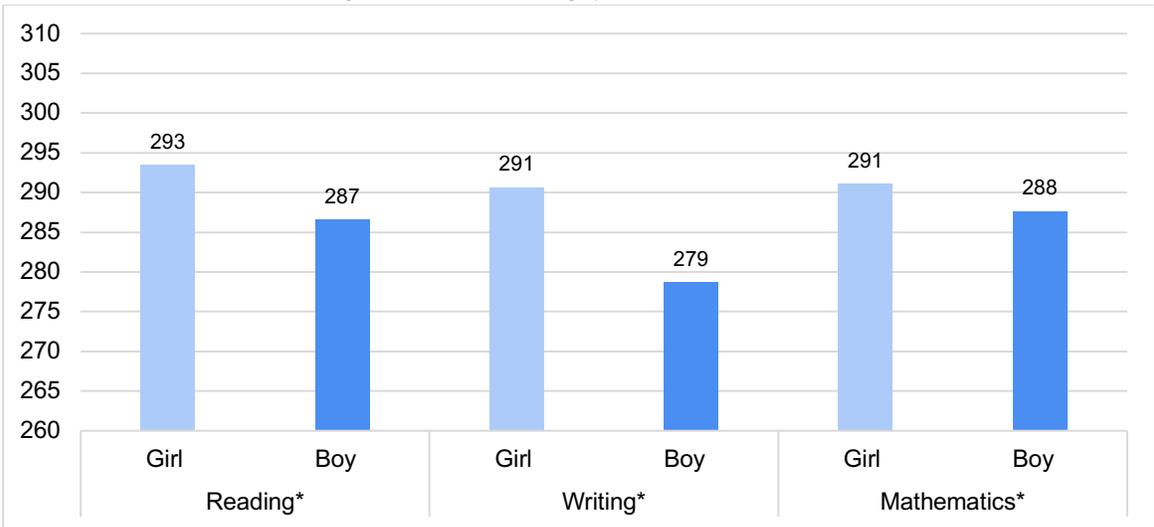
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.2. Student performance by age

As shown in Figure 3.16, normative age students are significantly better than over-age students in reading, writing and mathematics, with 5 score points in reading, 4 score points in writing and 3 score points in mathematics. However, there is no significant difference between under age and normative age students in all domains. These results reflect that retention caused by late enrolment and repetition is strongly associated with student performance, and aligns with previous literature (see, for example, Asina & Halimah, 2012).

Figure 3.16. Student performance in reading, writing and mathematics
by the age of Grade 5 students

Note: * indicates that the difference is statistically significant between "normative age" and "over age"
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.3. Student performance by language spoken at home

Using a mainstream language at home and in instruction appears to benefit students in all three domains. Students who spoke Khmer at home perform better, on average, in reading, writing and mathematics than students who did not speak Khmer at home, with a performance difference of 11 score points in reading, 14 score points in writing, and 11 score points in mathematics. All differences are statistically significant. Encouraging a mainstream language at home and in instruction matters to student performance in tasks that require extensive reading, as those in SEA-PLM (MoEYS, 2018).

Figure 3.17. Student performance in reading, writing and mathematics by language spoken at home
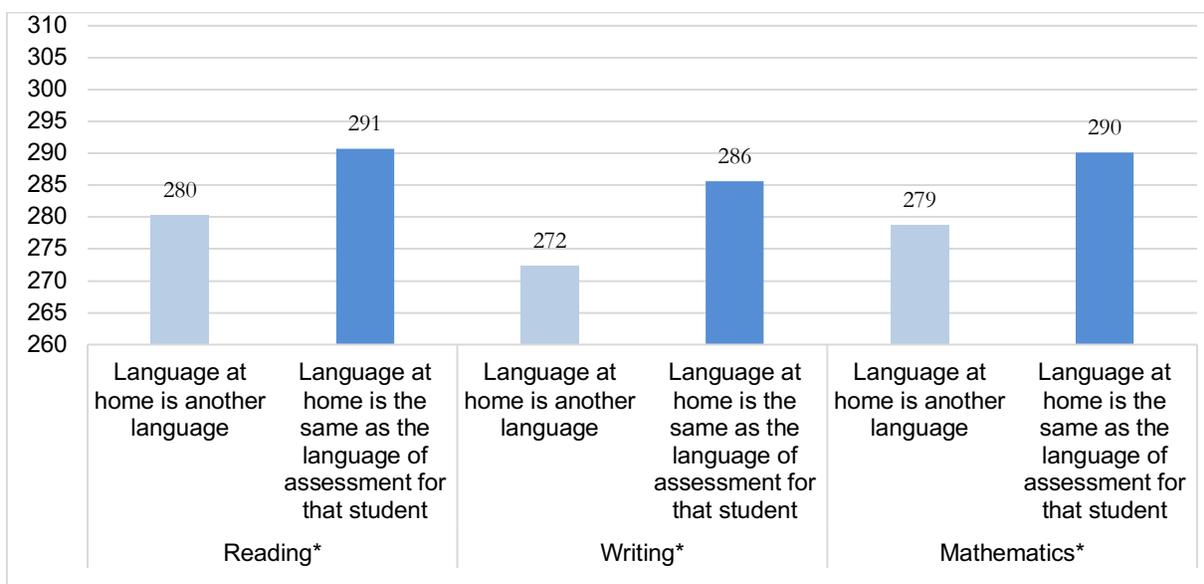
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.4. Student performance by number of meals per day

The SEA-PLM 2019 asked Grade 5 students if they had breakfast, lunch and dinner on a normal school day. For each kind of meal, there were two categories of responses, 'yes' and 'no'. These responses were aggregated into a new variable with four new categories including, 'No meal, One meal, Two meals and Three meals'. In Cambodia, 68.6% of students had 'Three meals' on a normal school day, followed by 'One meal (16.1%) and 'Two meals' (14.3%). Few students reported having 'No meal' on a normal day (0.9%). Therefore, the below analysis of student performance by number of meals did not include the 'No meal' category (see Figure 3.18).

Food insecurity brings profound anxiety and stress into family life which can trigger depression, aggressive behaviour in children, a sense of hopelessness, and overwhelming stress for parents struggling to give their children the best start (Hannum et al., 2014). It affects children's school attendance, achievement and attainment: children who are hungry in class cannot concentrate or may be disruptive. The majority of literature examining the effects of dietary behaviours on academic achievement focuses on breakfast consumption. In this section, we provide a more refined approach to this issue by comparing the average achievement in reading, writing and mathematics of Cambodian Grade 5 students according to the number of meals they reported having per day. As shown in Figure 3.18, students who had three meals outperformed students who had one meal, with 8 score points difference in reading, 7 score points in writing and 9 score points in mathematics. Similarly, students who had three meals outperformed students who had two meals, with 6 score points difference in reading, 5 score points in writing and 7 score points in mathematics. However, there is no significant difference in student performance between students who had two meals and one meal.

Figure 3.18. Student performance in reading, writing and mathematics by number of meals per day

Note: * indicates that the difference is statistically significant between "one meal" and "three meals", and between "two meals" and "three meals"
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.5. Student performance by attending preschool

Attending preschool is a foundation for child education. As shown in Figure 3.19, students who reported attending preschool for one year outperformed those who reported not attending preschool at all. The difference is of 4 score points in reading, 5 score points in writing, and 5 score points in mathematics. However, there is no significant difference in student performance between students who reported attending preschool for two years or more and those who did not attend preschool. Similarly, there were also no statistically significant differences between those students who attended preschool for two years or more and those who attended preschool for one year. These results add evidence to support the findings of other studies in the sense that attending preschool seems to be a major factor determining the later success of students in the academic arena (see, for example, Hogrebe & Strietholt, 2016; Sandoval-Hernandez et al., 2013).

Figure 3.19. Student performance in reading, writing and mathematics by attending preschool
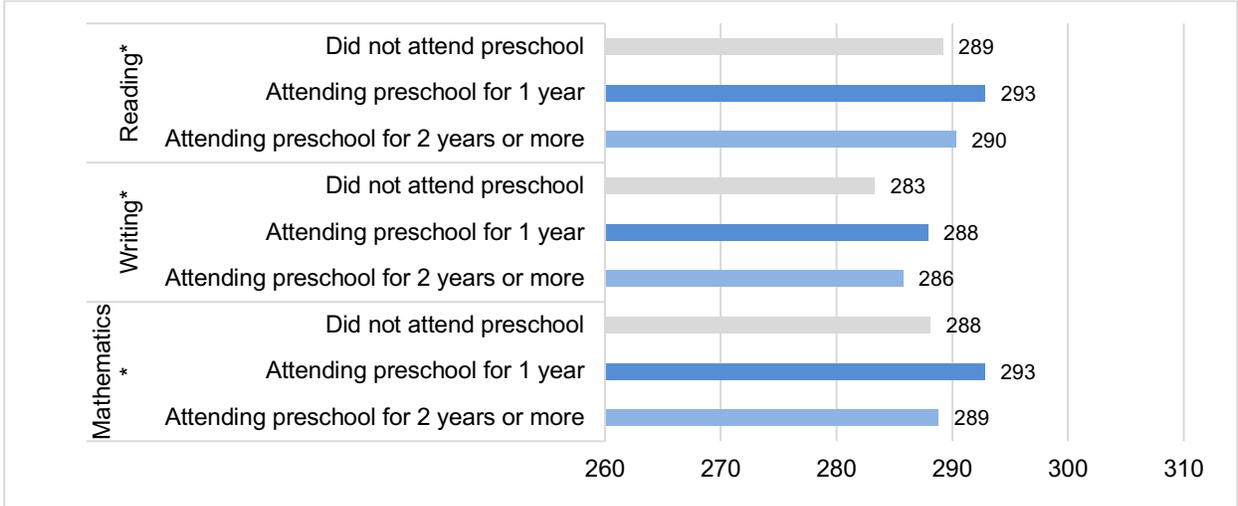
Note: * indicates that the difference is statistically significant between "attending preschool for 1 year" and "did not attend preschool"
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.6. Student performance by repeating Grade 1

Students who did not repeat Grade 1 performed better, on average, in reading, writing and mathematics than students who did repeat Grade 1. The differences are of 9 score points in reading, 9 score points in writing, and 8 score points in mathematics. All differences are statistically significant. Repetition can be costly, as it generally requires more spending on education and delays students' entry into the job market (OECD, 2013).

Figure 3.20. Student performance in reading, writing and mathematics by repeating Grade 1
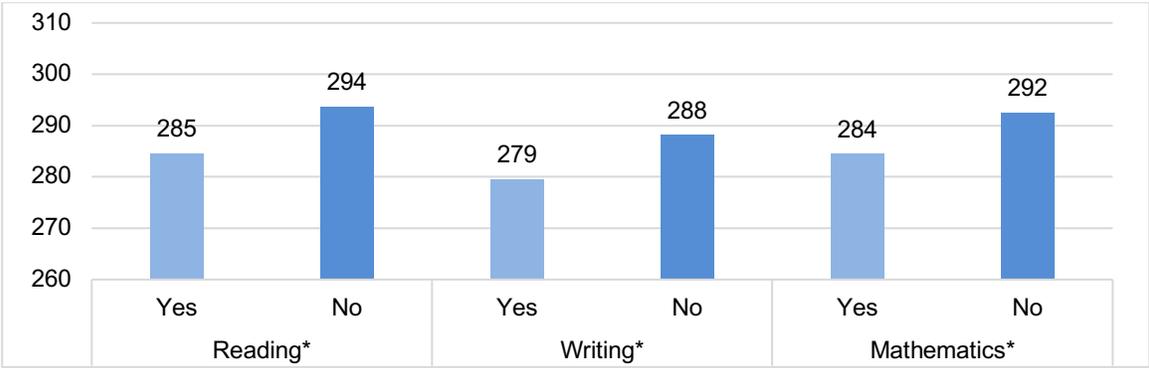
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.7. Student performance by positive attitudes towards school

After home, school is where Cambodian students spend most of their time. There is no debate regarding the importance of schooling for students' future life. SEA-PLM measured Grade 5 students' beliefs about the value of schooling and learning. The questionnaire included questions about whether they felt safe at school, students' belonging to school, and their attitudes towards school activities. The individual questions were converted to a scale that represents students' positive attitudes towards school, with higher scores indicating better attitudes. The regional mean of this scale is of 50 with a standard deviation of 10 (details on the methods used to create this scale can be found in UNICEF & SEAMEO, 2020). On average, Grade 5 students in Cambodia reported significantly lower levels of positive attitudes towards school than that the regional average, with a national mean of 48. As shown in Figure 3.21, on average students who reported higher attitudes towards school than the national mean tended to have higher performance in reading, writing and mathematics. The differences are of 6 score points in reading, 8 score points in writing, and 6 score points in mathematics. All differences are statistically significant. This finding, which coincides with what other studies have reported in the past (Geesa et al., 2019), suggests that enhancing the positive attitudes of students towards school can contribute to improving their academic performance.

Figure 3.21. Student performance in reading, writing and mathematics by positive attitudes towards school

Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.8. Student performance by positive attitudes towards mathematics

Mathematics is a fundamental subject for general education and higher education. In SEA-PLM, mathematics is one of the core outcomes measured by the study. In addition to positive attitudes towards school, SEA-PLM also measured Grade 5 students' beliefs about the value of learning mathematics and activities related to mathematics taught by their teacher. The questionnaire included questions about their interest in mathematics, teachers' activities, and teachers' help in learning mathematics. The individual questions were transformed to a scale, with higher scores indicating positive attitudes. The regional mean of this scale is of 50 and the standard deviation of 10 (details on the methods used to create this scale can be found in UNICEF & SEAMEO, 2020). On average, Grade 5 students in Cambodia reported significantly lower levels of positive

attitude towards mathematics than that the regional average, with a mean of 48. At the national level, as shown in Figure 3.22, on average, students who reported attitudes towards mathematics above the national mean performed better in the three domains evaluated. The differences are of 6 score points in reading, 7 score points in writing, and 5 score points in mathematics. All differences are statistically significant. In line with the results obtained in other international studies (e.g. Michalides et al., 2019), these results suggest that students' attitudes towards mathematics can affect not only their achievement in mathematics but also their overall achievement in the other domains.

Figure 3.22. Student performance in reading, writing and mathematics by attitudes towards mathematics
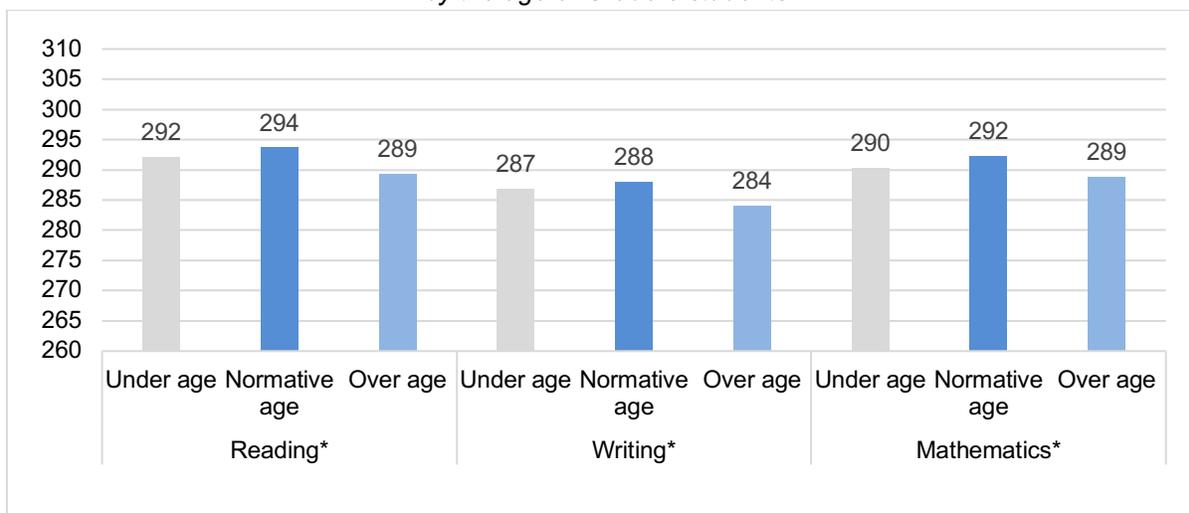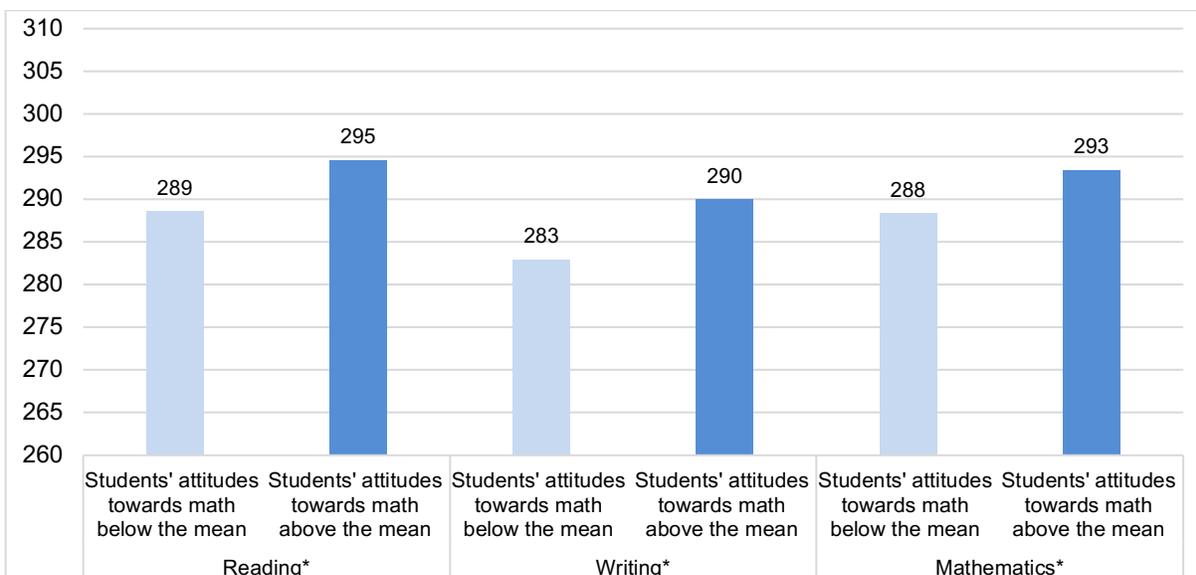

Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.9. Student performance by highest educational level of students' parents

Family background, in particular parental level of education, has been found to have an important role in explaining differences in academic achievement (Tian et al., 2019). In SEA-PLM 2019, parental education was measured based on questions about fathers' and mothers' level of schooling. These questions were used to identify the highest level of education completed by each parent on a 5-point scale, based on the International Standard Classification of Education (ISCED) 2011, such as ISCED level 6 or higher, ISCED level 4 or 5, ISCED level 3, ISCED level 2, and below ISCED level 2. Then the responses of each parent are used to create a variable indicating the highest levels of education reached by either parent. As shown in Figure 3.23, students whose parents completed higher levels of education tend to perform better in all measured domains. The difference in performance between students whose parents completed high education or higher, and students whose parents did not go to school or studied in religious schools, is 27 score points in reading, 24 score points in writing, and 28 score points in mathematics. The difference between students whose parents did not go to school and those whose parents completed primary education is small. However, the difference is considerably larger for educational levels from lower secondary education and above. Overall, students who have parents with a higher level of education tend to perform better in all domains.

*Figure 3.23. Student performance in reading, writing and mathematics
by the highest educational level of students' parents*
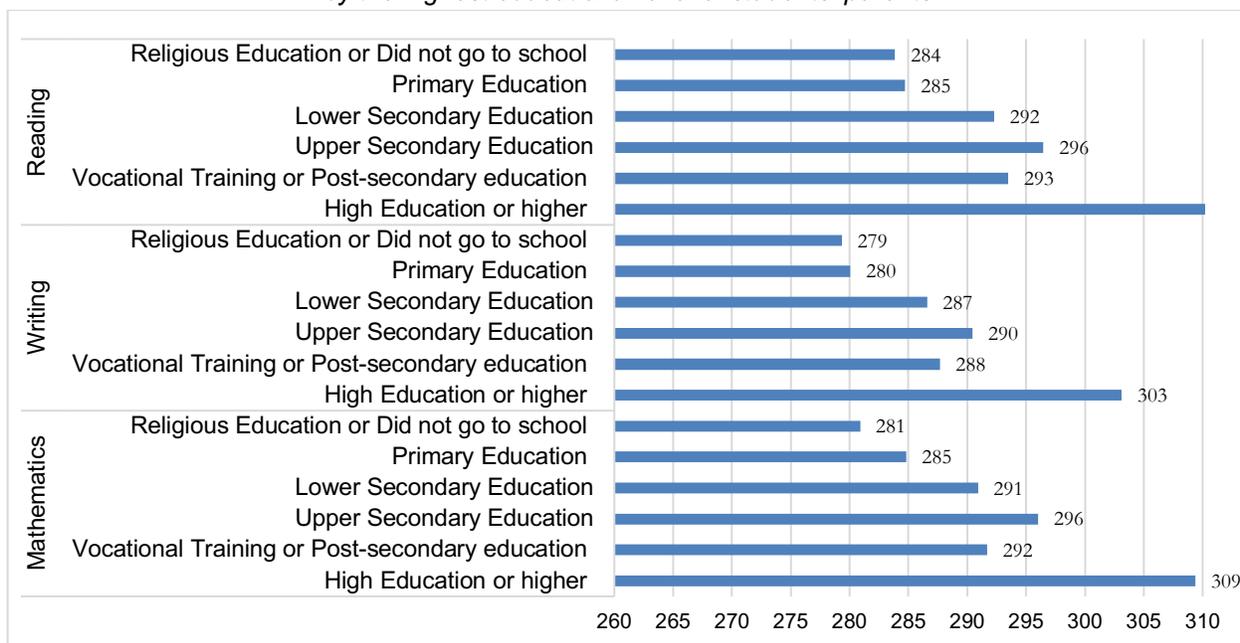
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.10. Student performance by resources at home

SEA-PLM looked at the relationship between student performance in reading, writing and mathematics and the availability of resources at home. Students were divided into quartiles. Students with the 25% lowest level of resources available at home were in the bottom quarter, and students with the 25% highest level of resources available at home were in the top quarter. As expected (Parcel & Dufur, 2001), students in the top quarter outperformed students in the bottom quarter (see Figure 3.24). The difference is, on average, about 20 score points in reading, 17 score points in writing and 19 score points in mathematics.

Figure 3.24. Student performance in reading, writing and mathematics by resources at home
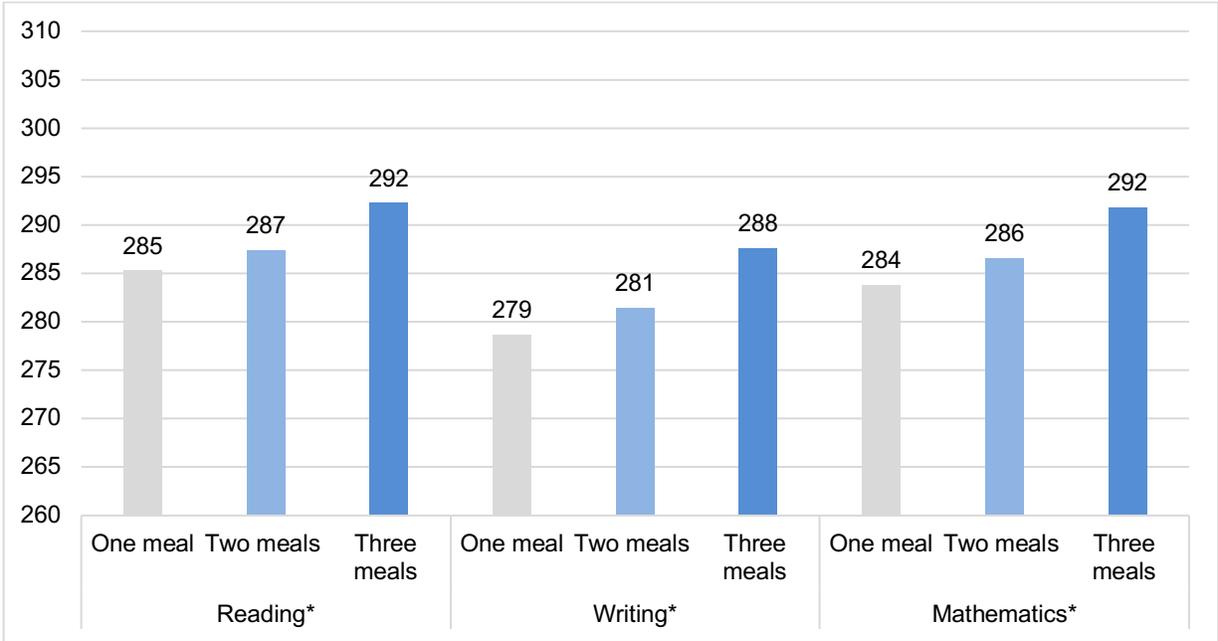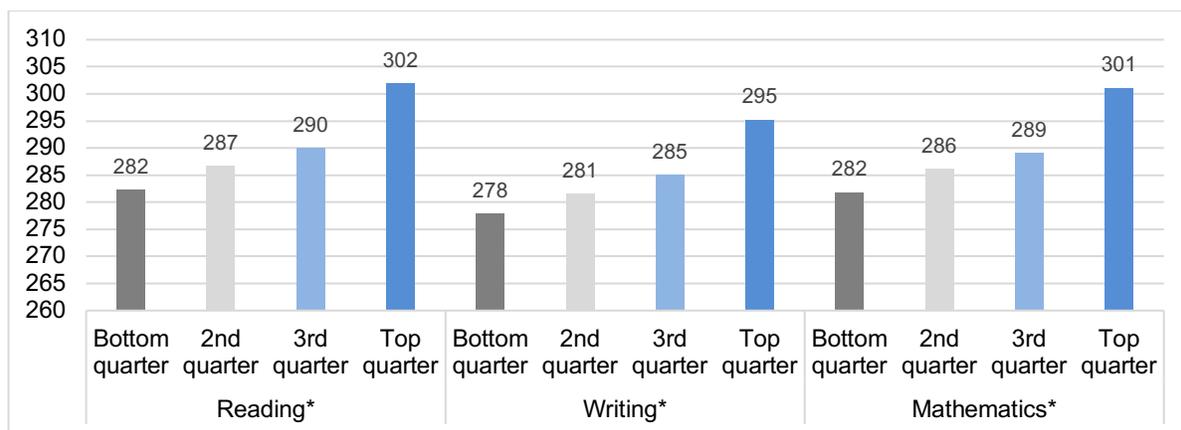

Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.11. Student performance by socio-economic status

Socio-economic status is commonly operationalized using variables that include those described in the sections above: parental education, parental occupation and availability of different

resources at home. The importance of this construct to student performance is well established in the literature (Caro et al., 2014). This section examines the relationship between reading, writing and mathematics performance and the SEA-PLM index of socio-economic status. Such analysis sheds light on the equity of education systems by considering socio-economic backgrounds as a potential explanatory mechanism for students' differences in performance in SEA-PLM. In SEA-PLM, the socio-economic status index is constructed based on three components: highest parental occupation (based on parent responses), highest parental education (based on parent and student responses), and home resources. For this analysis, students were divided according to their socio-economic status index into quartiles. Students with the 25% lowest socio-economic status index were in the bottom quarter and students with the 25% highest index were in the top quarter. Figure 3.25 shows that, on average, students from more socio-economically advantaged backgrounds tended to perform better than their less socio-economically advantaged peers. Students in the top quarter outperformed students in the bottom quarter by 19 score points in reading, 17 score points in writing, and 19 score points in mathematics. All differences are statistically significant. Thus, it can be concluded that students from a more socio-economically advantaged background perform better than more disadvantaged students. It is important to mention that such socio-economic gaps in educational achievement are well-known in the sociology of education and are reported to a greater or lesser extent in all countries around the world (Agasisti & Longobardi, 2017: Mullis et al. 2017; OECD 2019).

Figure 3.25. Socio-economic inequalities in reading, writing and mathematics
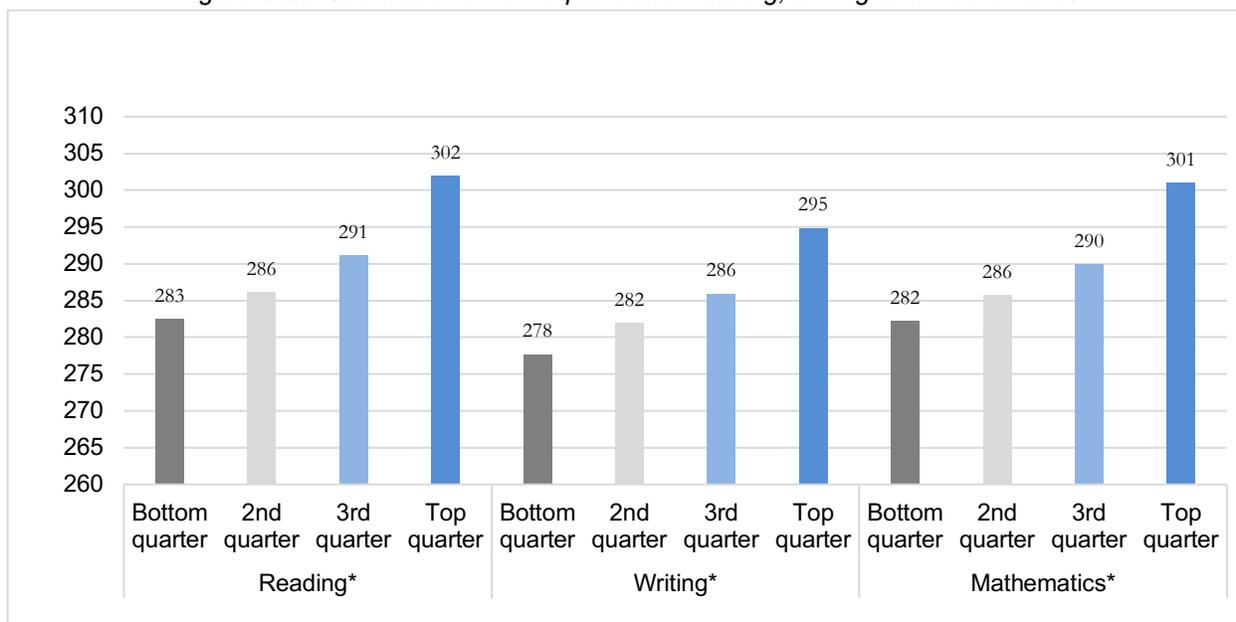
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.3.12. Student performance by parental engagement with schooling

The field of parental engagement and its relationship with education achievement is not new (see, for example, Hoover-Dempsey & Sandler, 1997). Previous research has found that higher levels of parental engagement are instrumental in closing achievement gaps of different kinds (e.g., Goodall, 2018). SEA-PLM revealed that parental involvement in children's education has a strong association with children's educational achievement. Figure 3.26 indicates that students who

reported that their parents had engaged more with their learning activities at home tended to perform better than those who reported that their parents had engaged less with their learning activities. The difference was, on average, 9 score points in reading, 12 score points in writing and 9 score points in mathematics. This finding reflects that educational reform in Cambodia is heading in the right direction (MoEYS, 2018), as this reform explicitly encourages parents to collaborate with teachers and schools, with the aim of reinforcing the quality of children's education.

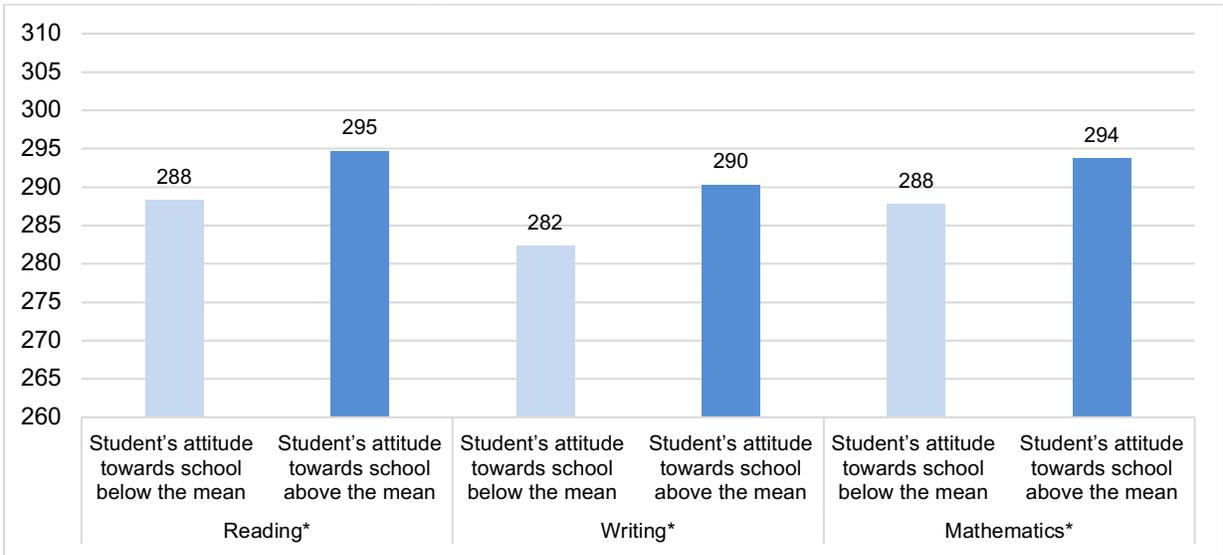*Figure 3.26. Student performance in reading, writing and mathematics by parental engagement towards schooling*
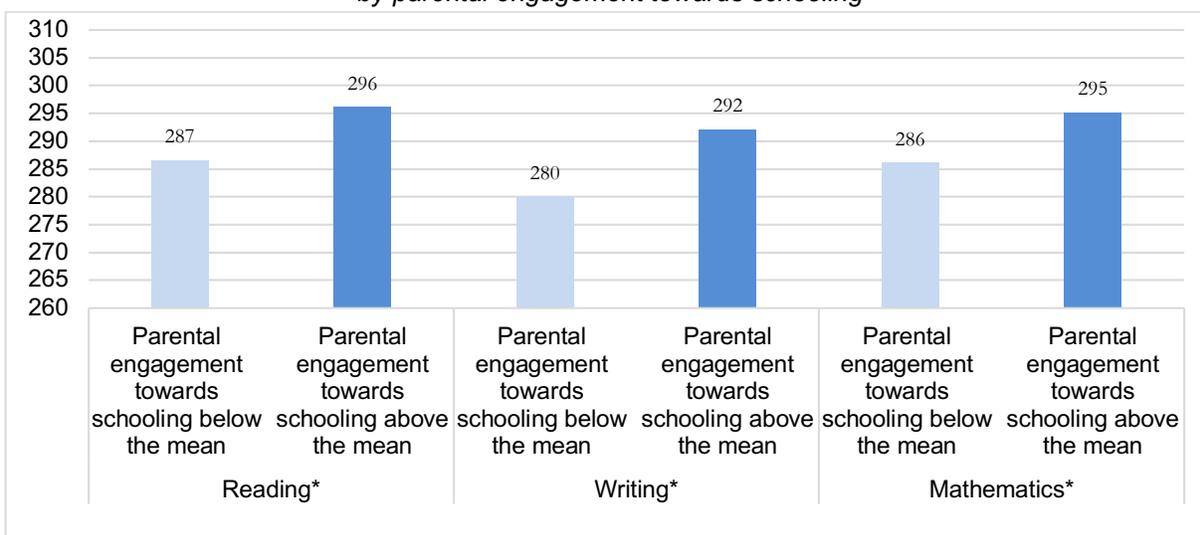
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4. School and context characteristics

Before crossing-referencing the information about schools and principals' characteristics with students' achievement in reading, writing and mathematics, this section provides an overview of the characteristics of school principals and the school environments on their own. For school principals' characteristics, the variables considered are age, experience as a school principal, and school principals' education levels. Schools' characteristics, such as school size, daily lesson hours in primary schools, student teacher ratio, textbook availability, library access, issues hindering school capacity, monitoring student attendance, issues occurring at school among students, professional development of Grade 5 teachers, performance evaluation of Grade 5 teachers and monitoring schools will be described in this section. It is important to mention that because of the sampling strategy used in SEA-PLM, school characteristics have to be interpreted as attributes of students, rather than as elements in their own right. So, for example, instead of saying "the average age of school principals in Cambodia is X", we have to say "the average age of school principals where Cambodian students attend is X". More details on the sampling strategy used in SEA-PLM can be found in the Regional Report (UNICEF & SEAMEO, 2020).

3.4.1. School principals' gender

Based on the SEA-PLM 2019, men outnumber women as school principals: 82% male to 18% female. This finding reflects the gender gap in school management and leadership in Cambodia.

3.4.2. School principals' age

School principals were asked about their age. As shown in Figure 3.27, about 91% of students attend schools where the principals were between 35 and 54 years old. Furthermore, 11.3% of students attend schools where the principals were aged between 24 years or younger and 34 years old. About 8.8% of children attend schools where principals were 55 years old and older.

Figure 3.27. Percentage of students by the age of school principals
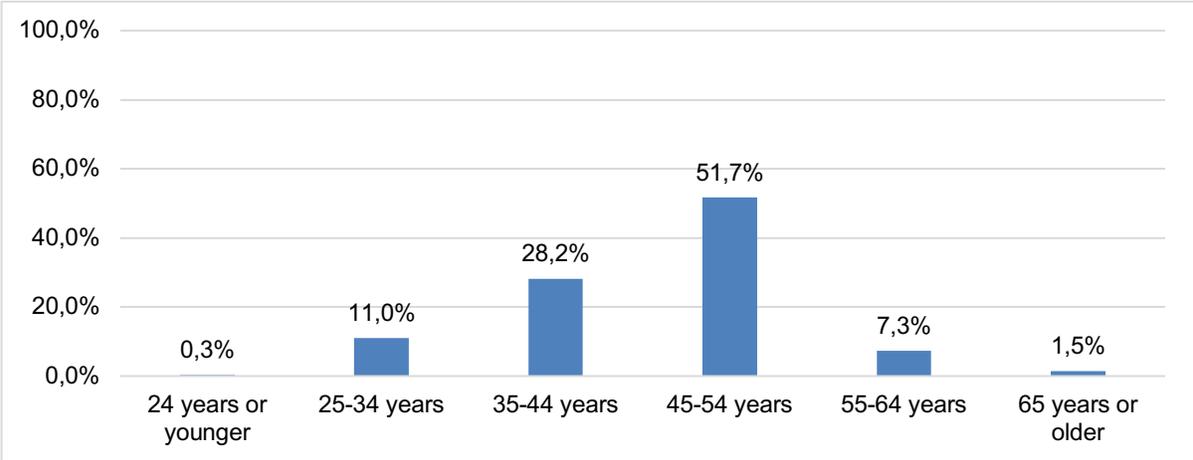
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.3. Experience as school principals

In Cambodia, many school principals are also primary teachers who are promoted as principals based on their experience in teaching and school management. In the school questionnaire, SEA-PLM asked school principals about their experience in primary school management in their role as principals. As shown Figure 3.28, some 29.4% of Grade 5 students were at schools where principals reported that they had from six to 10 years of experience in leading and managing their schools. Some principals were promoted to principal between two years or less and five years ago, and 27% of Grade 5 students were at schools where principals were in the role for at least 11 years.

Figure 3.28. Percentage of students by school principals' experience in number of years
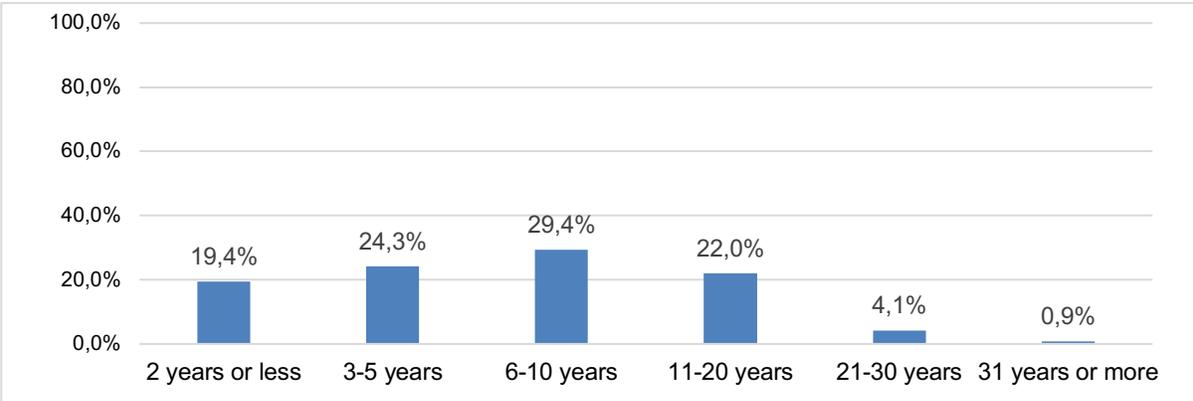
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.4. School principals' education level

School principals' education is known to be associated with their ability to manage and lead a school. As shown in Figure 3.29, 14.5% of students were at schools where principals reported that they were educated to lower secondary level, while 38.9% and 46.5% of students were at schools where the principals reported to be educated to upper secondary and post-secondary education or higher education levels, respectively.

Figure 3.29. Percentage of students by school principals' highest educational level
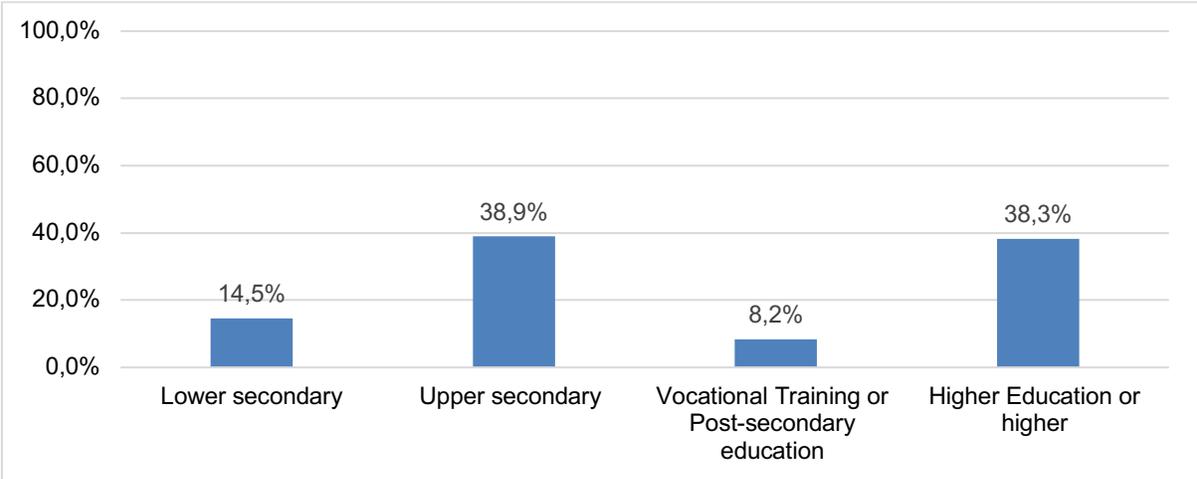
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.5. School size

School principals were asked about the number of students who were enrolled in their schools in December 2018. Based on SEA-PLM 2019 data analysis, on average the number of students in Cambodian primary schools was 690 students per school. For this analysis, schools were divided into four groups according to the number of students: less than 200 students, 200 to 499 students, 500 to 999 students, and 1,000 students and over. As shown Figure 3.30, school principals reported that 15.3% of students were attending schools with fewer than 200 students (small schools); 40.4% of students were attending schools with 200 to 499 students (medium schools); 29.1% of Grade 5 Cambodian students were attending schools with 500 to 999 students; and 15.1% of students were enrolled in schools with 1,000 students and over (large schools).

Figure 3.30. Percentage of students by school size
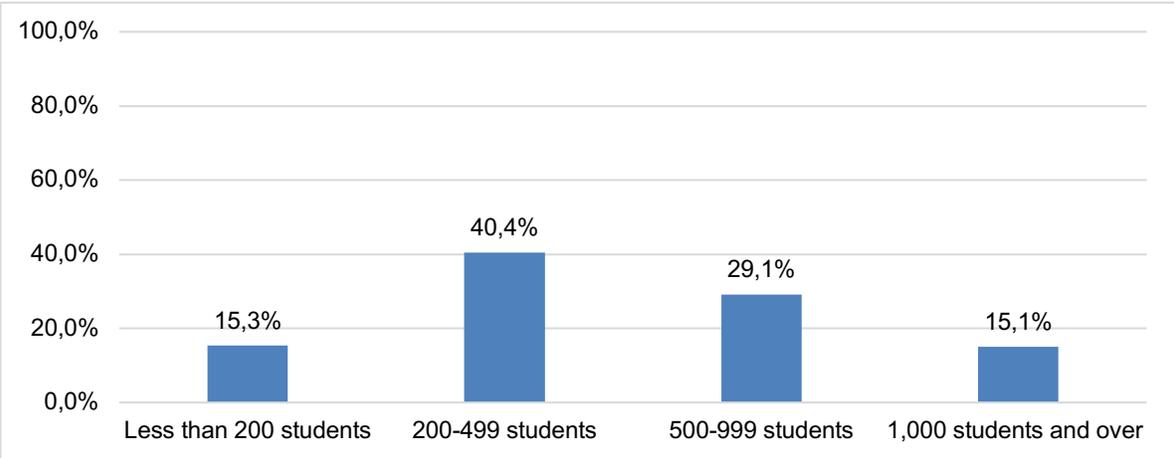
Source: Authors' own calculations from SEA-PLM 2019 Database

To provide additional information of the schools attended by Grade 5 students in Cambodia, this section reports the proportion of schools located in rural and urban areas. As shown in Figure 3.31, most schools are located in urban areas. Close to half (44.1%) of schools with '1,000 students and over' are in urban areas, whereas only 7% of schools with this number of students are in rural areas. In rural areas, most schools (45.8%) have an enrolment of '200 to 499 students'.

Figure 3.31. Percentage of students attending school in urban and rural regions by school size
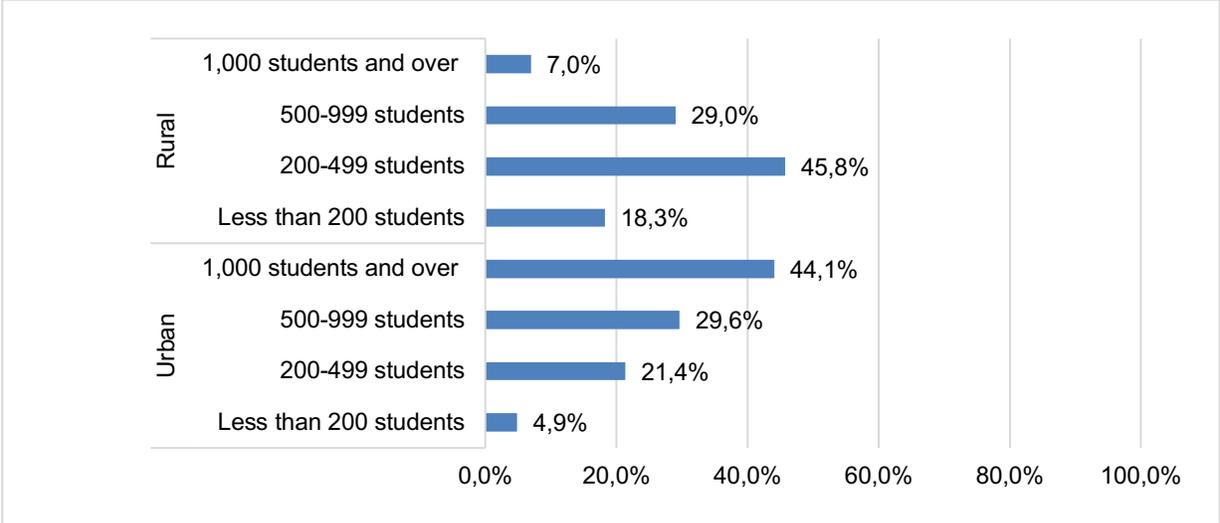
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.6. Student-teacher ratio

The student-teacher ratio is calculated based on the number of students and the number of teachers at school. On average, Cambodia had a ratio of 43 in primary school. According to data from the UNESCO Institute for Statistics[3] (MoEYS, 2019) this can be considered a high student-teacher ratio when compared to high-income countries in the ASEAN region. For example, in Thailand, this ratio is 16, in Vietnam it is 20, and in Indonesia it is 17. The large student-teacher ratio might be impeding equal concentration of teachers for each student during lessons and limiting students' opportunities to perform adequately in the classroom. The student-teacher ratio in rural schools was higher than in urban schools, as shown in Figure 3.32. This result suggests a lack of teachers in rural areas compared to urban regions. The student-teacher ratio of the schools located in the Coastal zone was 36, which was lower than for the schools in the Plains, Tonle Sap, and Plateau regions, where the ratio was between 43 and 45, as shown in Figure 3.32. These results show the lack of homogeneity in the availability of teachers across the country.

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[3] The data is extracted from World bank web page on Dec 17, 2020, *https://data.worldbank.org/indicator/SE.PRM.ENRL.TC.ZS*

Figure 3.32. Student-teacher ratio by region and geographical zone
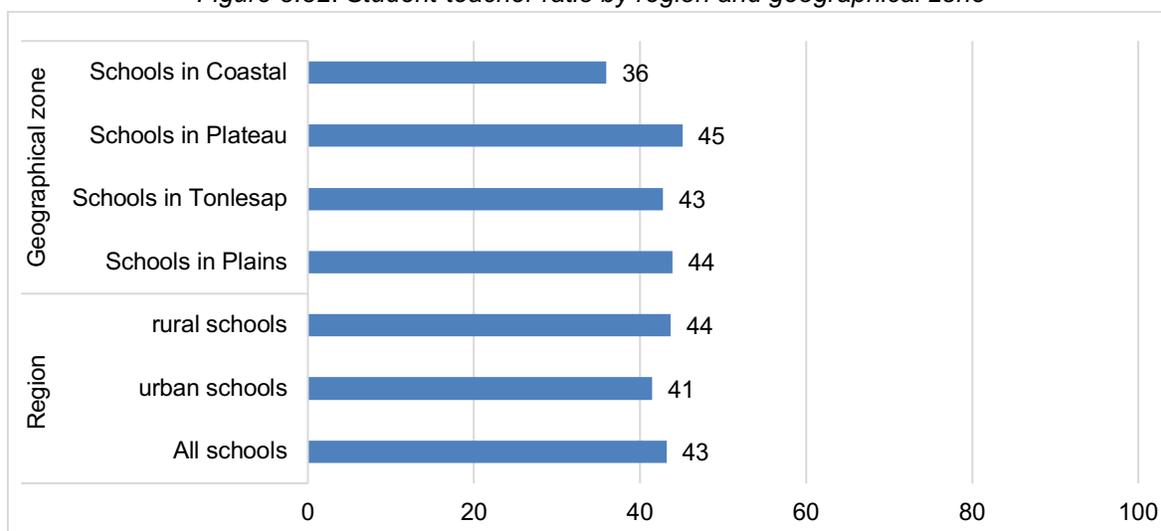
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.7. Textbook availability

The importance of textbook availability on student achievement was established in the 1980s (Heyneman & Jamison, 1980). Principals of schools participating in the SEA-PLM were asked to indicate the number of Khmer language and mathematics textbooks available in schools for Grade 5 classes. They could select only one of the following options: no textbooks available, students had one textbook to themselves, or students shared a textbook with another student or multiple students. As shown in Figure 3.33, the majority of students attended schools where there was one textbook per student, for both Khmer language (93.8%) and mathematics (96.4%) lessons. There were few students with no text books, or who had to share one textbook with one or more students.

Figure 3.33. Percentage of students by Khmer language and mathematics textbook availability
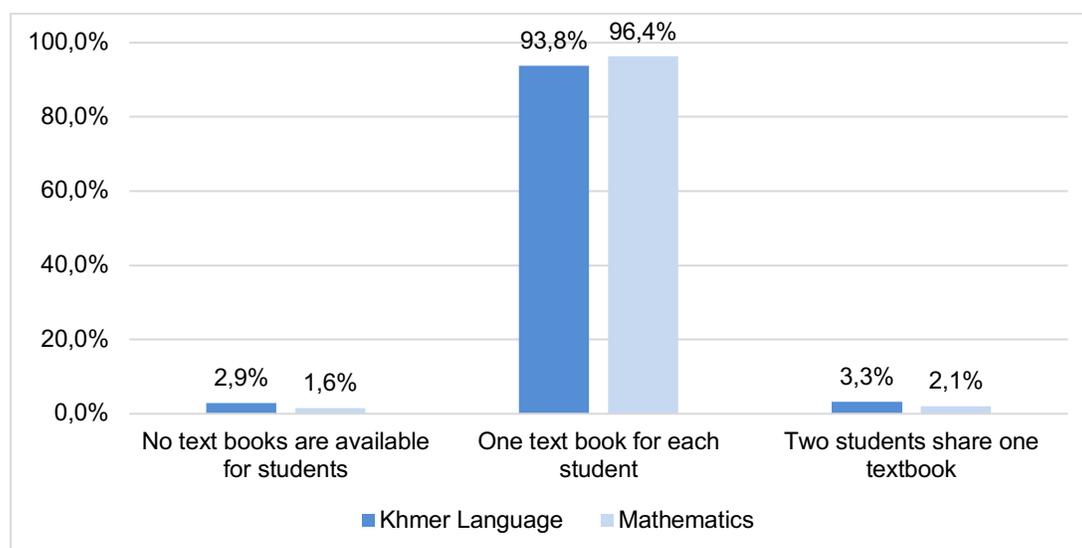
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.8. Library access

School libraries support students' interest in reading and engaging in reading for pleasure. They expand opportunities for students to access a variety of texts. School principals were asked whether their school had a library. As shown in Figure 3.34, three quarters of students attended schools where there was a library. Thus, about 25% of Cambodian Grade 5 students lack the learning opportunities that a school library can offer. Regarding the lack of resources to organize and run a school library, some studies have suggested that while demanding considerably fewer organizational resources, classroom libraries could be a good alternative (Gross, 1999).

Figure 3.34. Percentage of students with a school library available
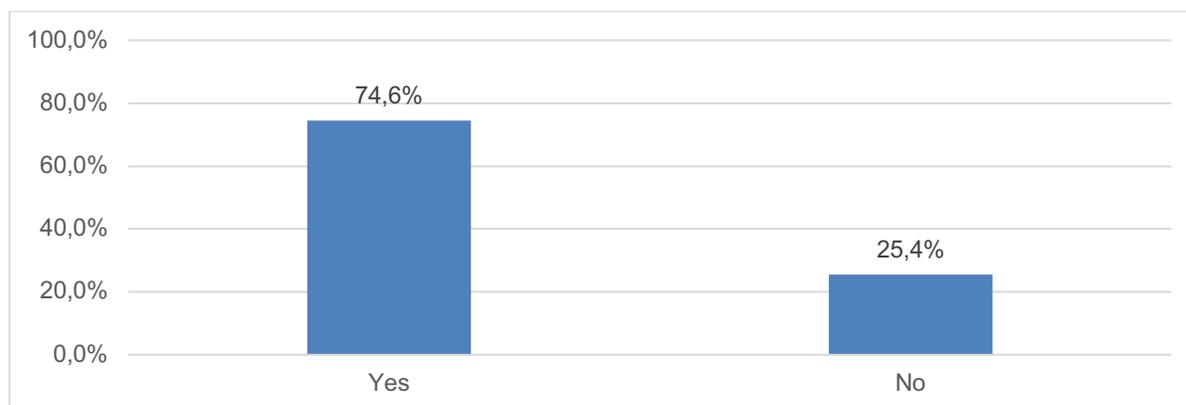
Source: Authors' own calculations from SEA-PLM 2019 Database

If school principals reported the availability of a school library, they were then asked to report the features of the library. Figure 3.35 illustrates that more than half of students attended schools where the library had magazines and reference books, and where books were issued to teachers, there was a librarian, a reading room for students, and books were issued to students. However, a lower proportion of children attend schools where the library had newspapers (18.2%), available computers for students (12.5%) or disability access (10.3%).

Figure 3.35. Percentage of students attending schools which have
the following features in the school library
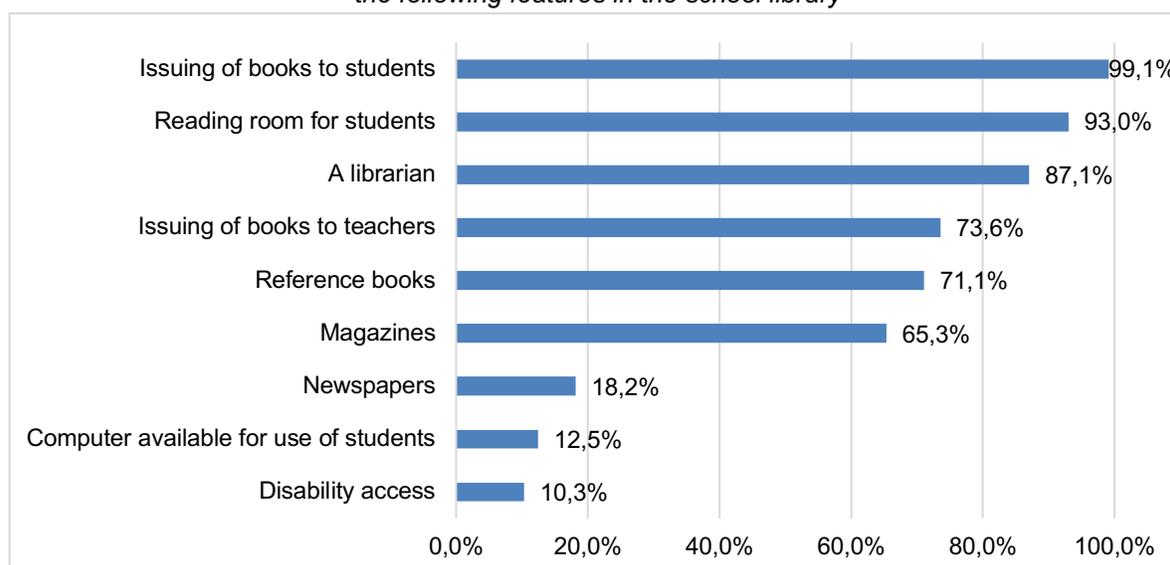
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.9. Daily lesson hours in primary schools

According to the directive about the implementation of the academic year 2019/20 (MoEYS, 2019) in primary education, all schools ensured that learning time was 38 weeks per year, with 40 learning hours per week. Schools had to open for students in two shifts, with the morning shift from 7:00 am to 11:00 am and the afternoon shift from 1.00 pm to 5.00 pm. A shift has five sections with four breaks, and a section has 40 minutes and a break with 10 minutes. In total, the expected learning time at primary school was 6.7 hours per typical school day. The data from SEA-PLM, however, shows that on a typical school day, 87.9% of Grade 5 Cambodian students received lessons in the school for four hours, as reported by school principals, and 5.2% of students were in schools where they were taught for about three hours or less. These results indicated that learning time was being lost in the classroom in Cambodia. This gap between the intended learning time and the time reported by school principals is perhaps caused by students arriving at school late, teachers being late to start lessons, or discipline problems, etc. It is important to analyse this issue in detail, as teaching time has been shown to be associated with student achievement (Bietenbeck, 2011, Macnab, 2000).

Figure 3.36. Percentage of students by daily lesson hours
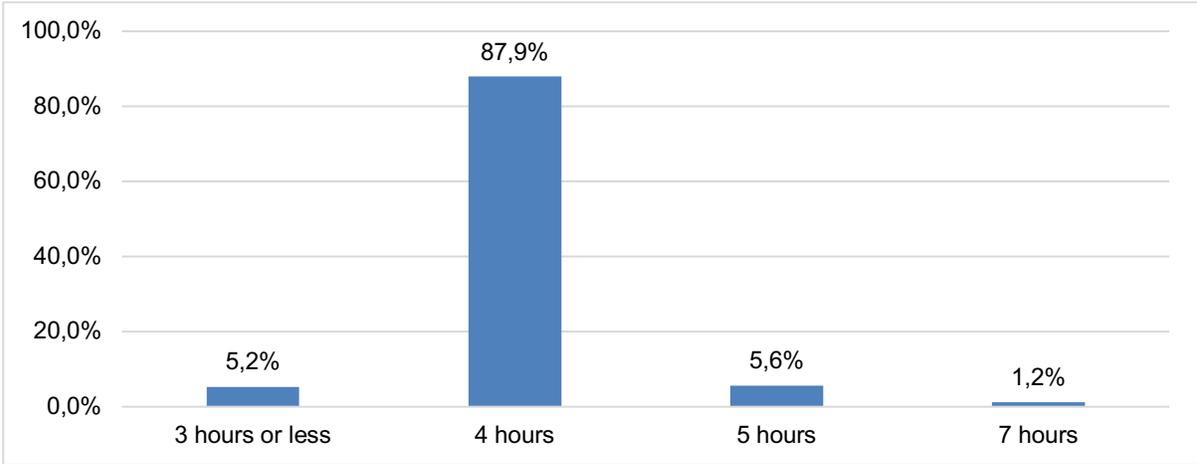
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.10. Monitoring students' attendance

School principals were asked to report on how they monitored student attendance. Most students (98.2%) attend schools where the principals reported that attendance was recorded every day, while 68.5% of students attend schools where principals said absences were reported to the school by students or their parents. About 50% of students were in schools where student attendance was recorded for every lesson. A minority of students attend schools where the principals personally monitor students' attendance.

Figure 3.37. Percentage of students by schools' practices of monitoring student attendance
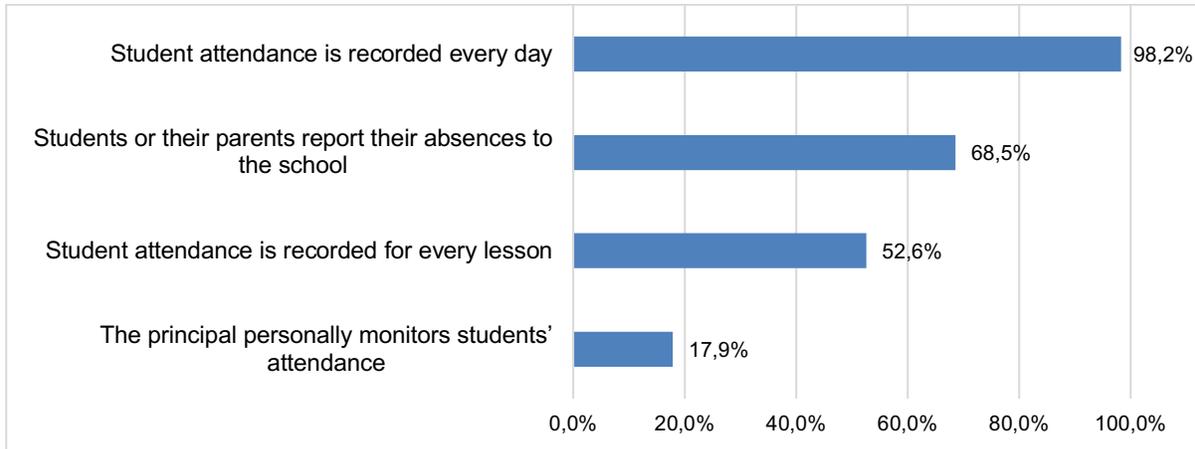
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.11. Monitoring schools

Principals from schools that participated in SEA-PLM were asked to indicate the frequency with which different people or teams visited the school in the last two years. The response options were 'No', 'Once', 'Twice', 'Three-five times', and 'More than five times'. Less than 50% of students were at schools where principals reported that a teacher educator had visited their school once in the last two years; 73.3% of students were at a school where an inspection team had visited once; and 80% of students were enrolled in schools where principals reported that an inspector or a supervisor had visited the school at least once in the last two years (see Figure 3.38).

Figure 3.38. Percentage of students at schools where school principals reported on the number of times that an inspector, a teacher educator, or an inspection team visited the school in the last two years
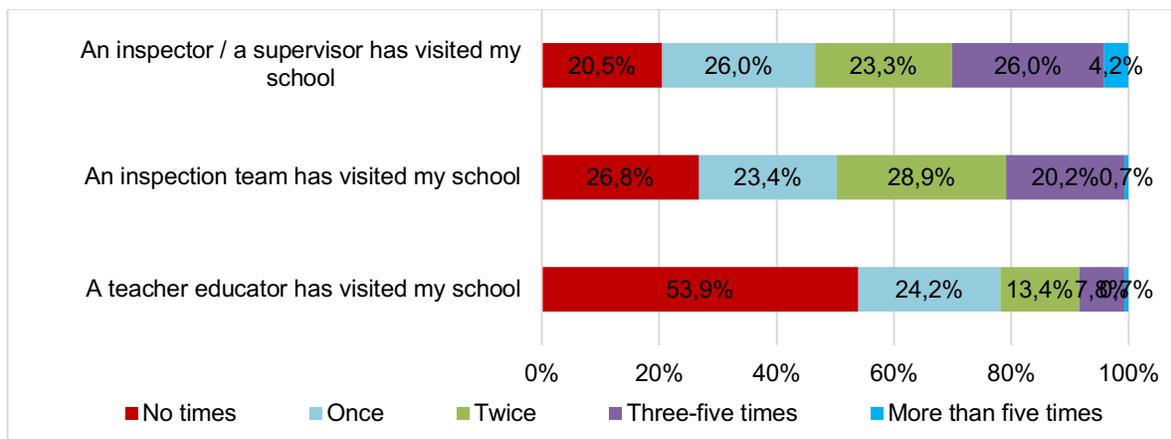
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.12. Performance evaluation of Grade 5 teachers

More than 90% of students were at schools where Grade 5 teachers are evaluated based on observation by the principal or senior staff. A similar percentage (90%) of students attend schools where teachers are evaluated using Grade 5 student achievement. Observation by other teachers, and by inspectors, or other people external to the school, were used to evaluate teachers' performance of 75.8% and 60.7% of students, respectively.

Figure 3.39. Percentage of students by method used in schools to evaluate teachers
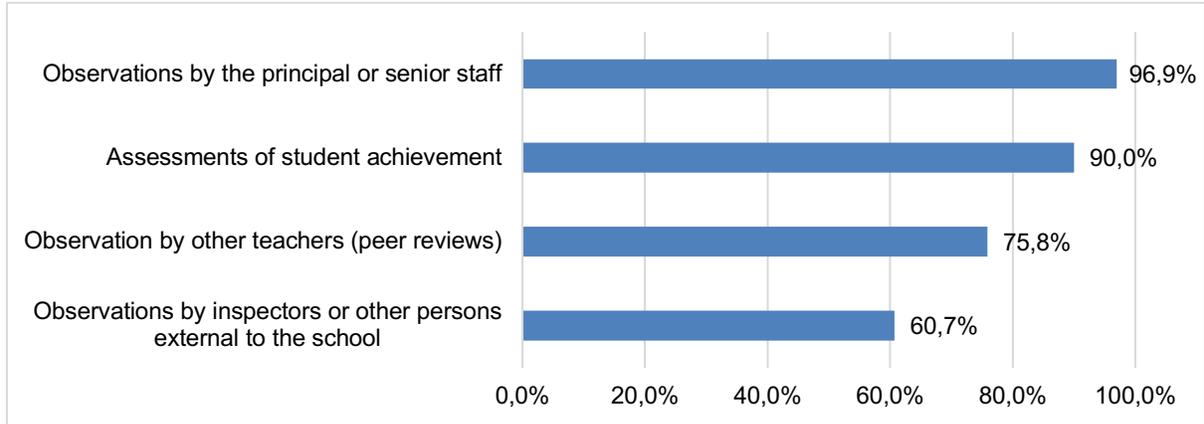
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.13. Issues occurring at school among students

To find out the issues occurring at school among children, school principals were asked to indicate the frequency of 12 different issues ('Never or hardly ever', 'At least once a month', 'At least once a week' and 'Daily or almost daily'). All students were at schools where principals reported that there was never or hardly ever aggression between students due to religious or ethnic differences; 55.3% of Grade 5 students are enrolled in schools where principals reported 'coming late for class' as an issue occurring among students at least once a month, weekly or daily; 41.7% of students were at schools where principals cited 'cheating in the classroom' as an issue occurring among students at least once a month, a week, or daily. Classroom disturbance was also an issue reported in the schools of 36.9% of students. Truancy was an important issue, with 22.7% of students attending schools where this occurs at least once a month, a week, or daily (Figure 3.40).

Figure 3.40. Percentage of students by issues occurring at school among students
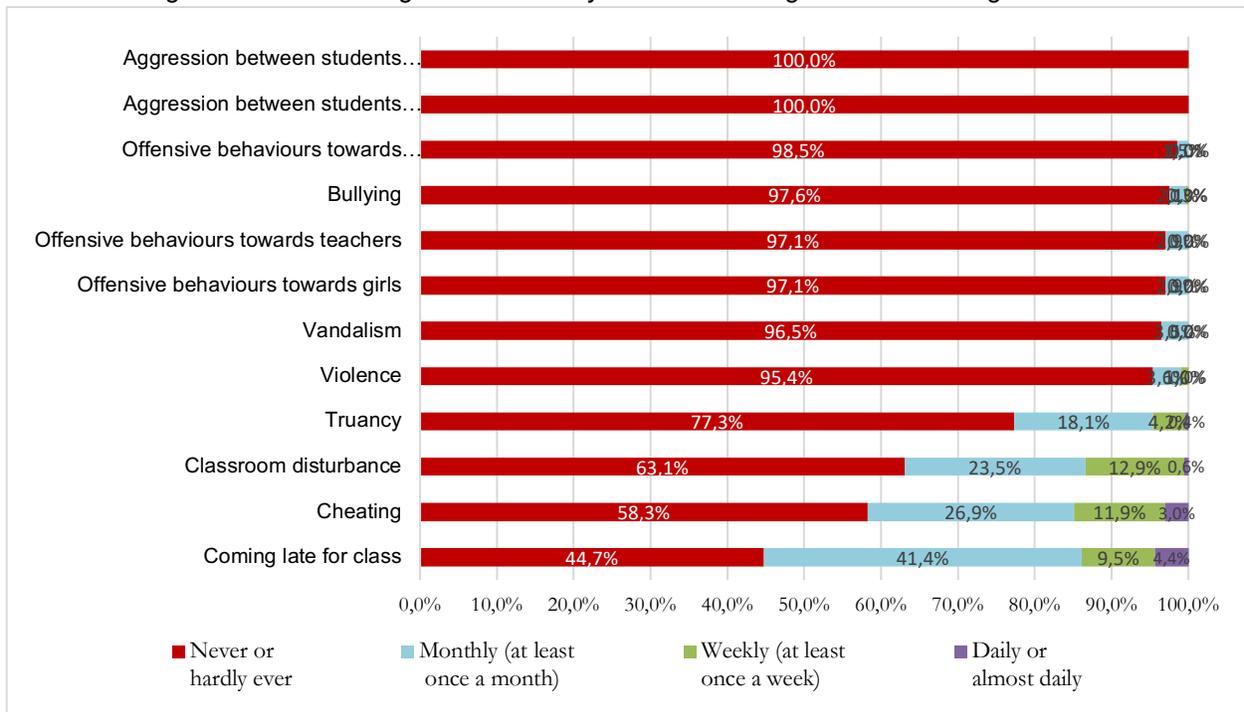
Source: Authors' own calculations from SEA-PLM 2019 Database

3.4.14. Issues hindering school capacity

Another important aspect investigated by SEA-PLM were the issues that principals considered as hindering their school's capacity to provide instruction, specifically:

- Shortage or inadequacy of classrooms

- Shortage or inadequacy of toilets

- Shortage or inadequacy of instructional materials (e.g. textbooks)

- Shortage of computers for instruction

- Lack of qualified teachers

Figure 3.41 illustrates the percentage of students who attend schools that see their capacity to provide instruction hindered (moderately or largely) by the following issues. The most common issue hindering schools' capacity was a lack of qualified teachers (34.4% of Grade 5 Cambodian students attend a school reporting this issue). Students also attend schools with a shortage or inadequacy of classrooms (41.1%), shortage of computers for instruction (42.6%), shortage or inadequacy of instructional materials (47.9%) and shortage or inadequacy of toilets (64.1%).

Figure 3.41. Percentage of students attending a school where the principal reported that their school's capacity to provide instruction was moderately or largely hindered by the following issues
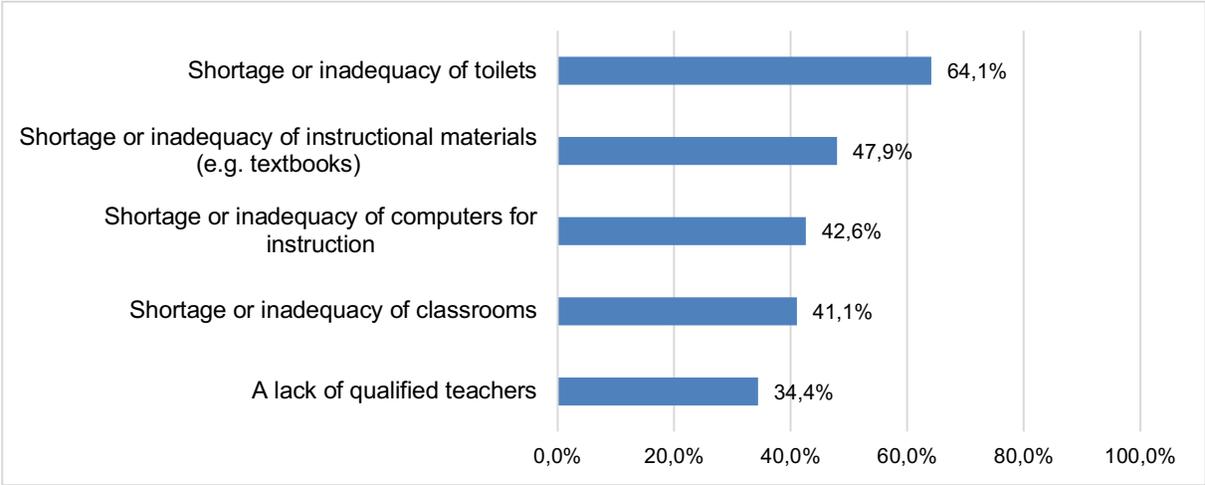
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5. Student performance by school and context characteristics

As the characteristics of schools have been described on their own, in this section we present the performance of students in reading, writing and mathematics according to selected schools and context characteristics (i.e. school management, school size, child-friendliness level, resources in the local area, regions and geographical zones).

3.5.1. Student performance by school management

The differences in average achievement between public and private schools have long been established in the literature (Alexander & Palla, 1983). Using SEA-PLM data, when comparing student performance between public and private schools, we can see a large gap in favour of students in private schools in Cambodia in all domains. As shown in Figure 3.42, students in private schools outperformed students in public schools in reading, writing and mathematics with

a performance difference of 25, 23 and 27 score points, respectively. When looking at the proficiency bands, it can be observed that, on average, private-school students are located in the reading Band 5, while public-school students are at the upper end of Band 3. In writing, students in private school and public schools have reached the upper end of Band 3, and Band 1 and below, respectively. The performance in mathematics of students in private schools has met Band 6 of the proficiency band, while students in public schools have reached the middle of Band 4. This reflects a form of inequity in access to good quality education depending on the type school management.

Figure 3.42. Student performance in reading, writing and mathematics by school management
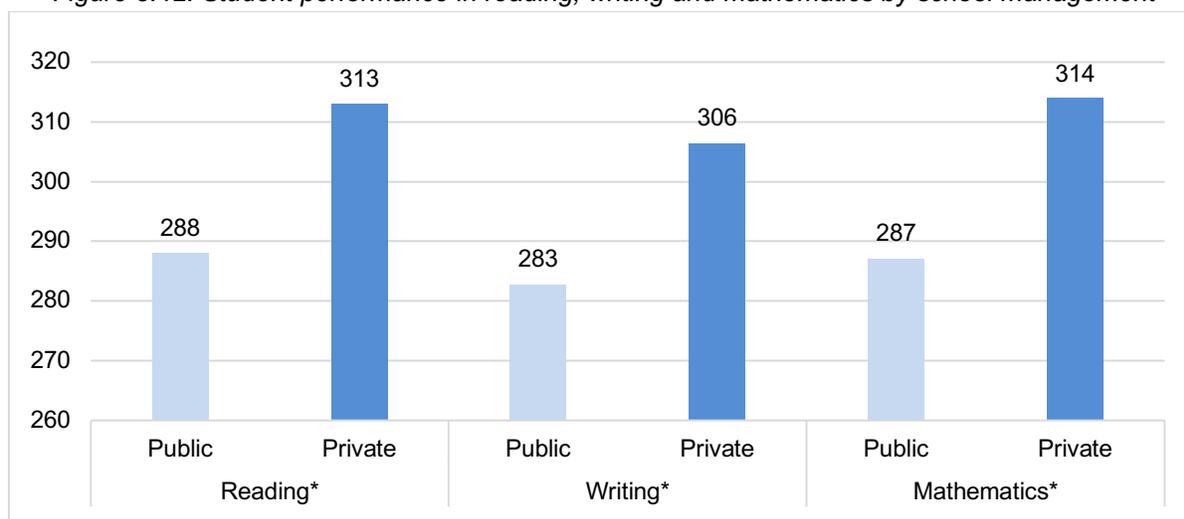
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5.2. Student performance by school size

This section examines the relationship between reading, writing and mathematics performance and school size. In this case, Grade 5 students were divided into four quarters based on the number of students who were at each school. As shown in Figure 3.43, students in the top quarter outperformed students at the bottom quarter for 14 score points in reading, 13 score points in writing and 13 score points in mathematics. All differences are statistically significant. Thus it can be concluded that students attending large schools perform better than students at small schools. In Cambodia, small schools were mostly located in the rural region (as shown in Figure 3.30) (school size) and they seem to lack teaching materials, school materials and infrastructure. They are called disadvantaged schools.

Figure 3.43. Student performance in reading, writing and mathematics by school size
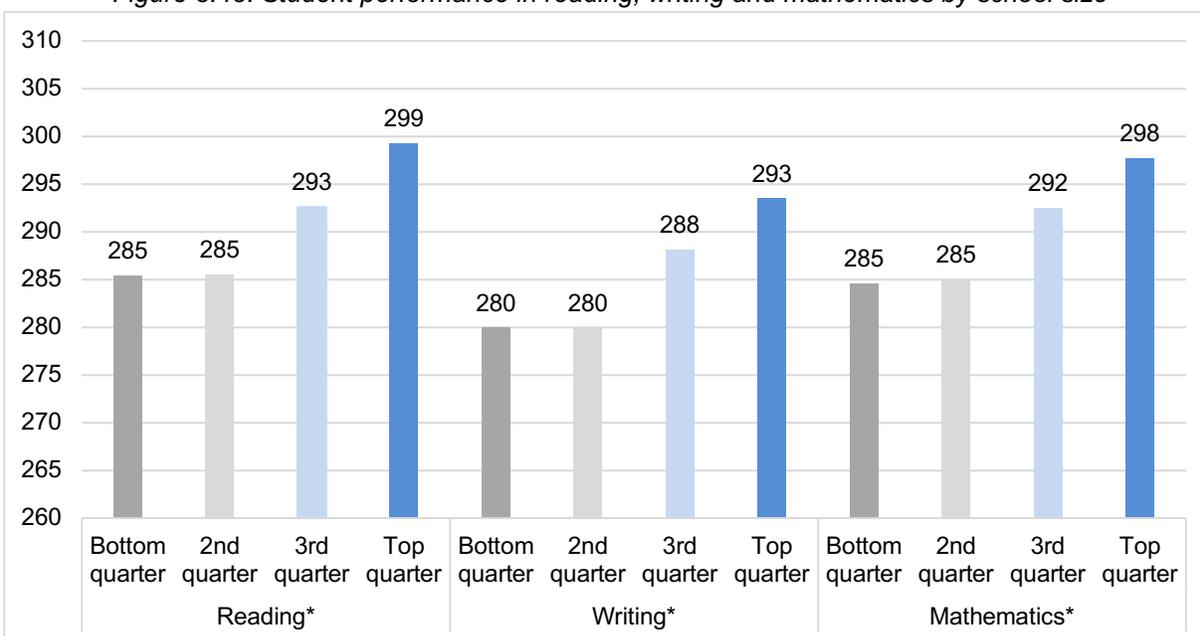
Note: * indicates a statistically significant difference in scores between students in the top quarter and the bottom quarter
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5.3. Student performance by child-friendly school level

SEA-PLM allowed for contrasting of the performance of Grade 5 students according to the Cambodia CFS program (UNICEF & Open Institute, 2020). There are six components required for a school to be certified as child-friendly: 1) All children have access to schooling (schools are inclusive); 2) Effective learning; 3) Health, safety and protection of children; 4) Gender responsiveness; 5) The participation of children, families and communities in the running of their local school; and 6) The national education system supporting and encouraging schools to become more child-friendly. According to the CFS Framework, the main condition is that a school should be inclusive and ensure that all children have access to schooling, particularly the most vulnerable children, such as orphans, ethnic minorities and those with physical disabilities. Schools can be classified in Basic, Medium or Advanced levels of child-friendliness. The result of this analysis indicates that students who were studying in advanced level child-friendly schools outperformed students who were studying in basic and medium level schools. The difference between students in schools categorized as basic level and those in schools categorized as the advanced level was, on average, 11 score points in reading, 12 score points in writing, and 12 score points in mathematics. The difference in performance between students in basic level schools and medium level schools tends to be small and not statistically significant.

Figure 3.44. Student performance in reading, writing and mathematics by child-friendliness school level
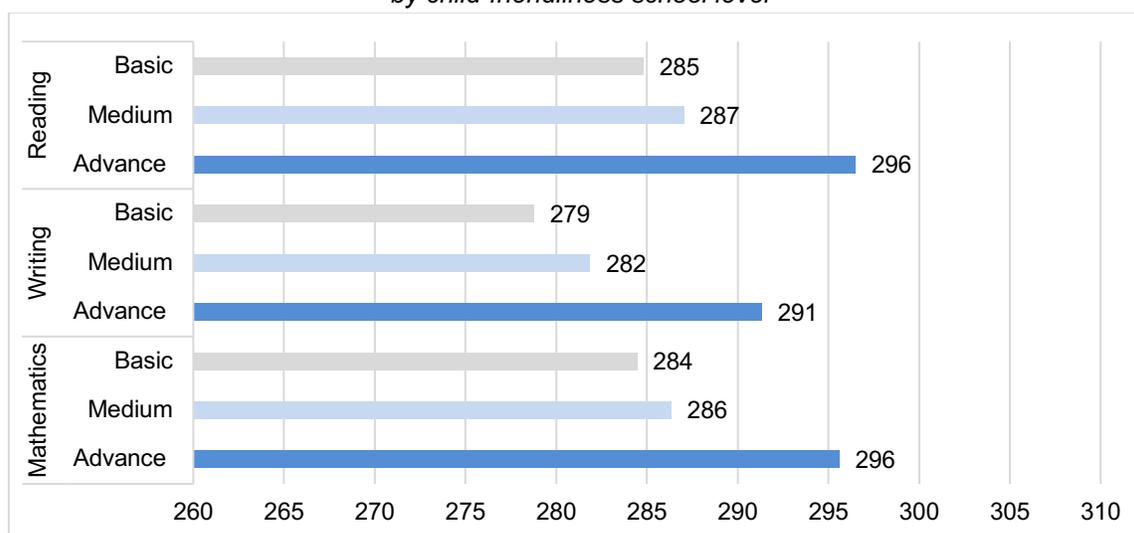
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5.4. Student performance by resources in the local area

In the school questionnaire, SEA-PLM asked school principals to respond 'Yes' or 'No' to each of the 12 following resources being available in their school's local area: public libraries, cinemas, theatres/music halls, foreign language schools, museums/art galleries, playgrounds, public gardens/parks, religious centres, sports facilities, shopping centres/marketplaces, youth cultural centres, and hospitals/clinics. A new scale was derived based on the responses to the 12 items mentioned above. The regional mean of this scale is of 50 and the standard deviation of 10. The higher scores on this scale correspond to greater cultural, social and health infrastructure resources available in the local area of the school where students are enrolled.

The lack of, or availability of, resources in the communities where schools are located has been linked to the academic performance of students at different educational levels (Chernyshenko et al., 2018: Yin, 2020). The relationship between reading, writing and mathematics performance and resources available in the local area was considered in SEA-PLM. In this case, Grade 5 students were divided into four quarters based on resources in the local area where their school was located.

As shown in Figure 3.45, students in the top quarter of the distribution outperformed students in the bottom quarter by 14 score points in reading, 15 score points in writing, and 15 score points in mathematics. All differences are statistically significant. Thus, it can be concluded that the number of resources available in the areas where schools are located seems to play an important role in students' achievement in all domains.

Figure 3.45. Student performance in reading, writing and mathematics by resources in the local area
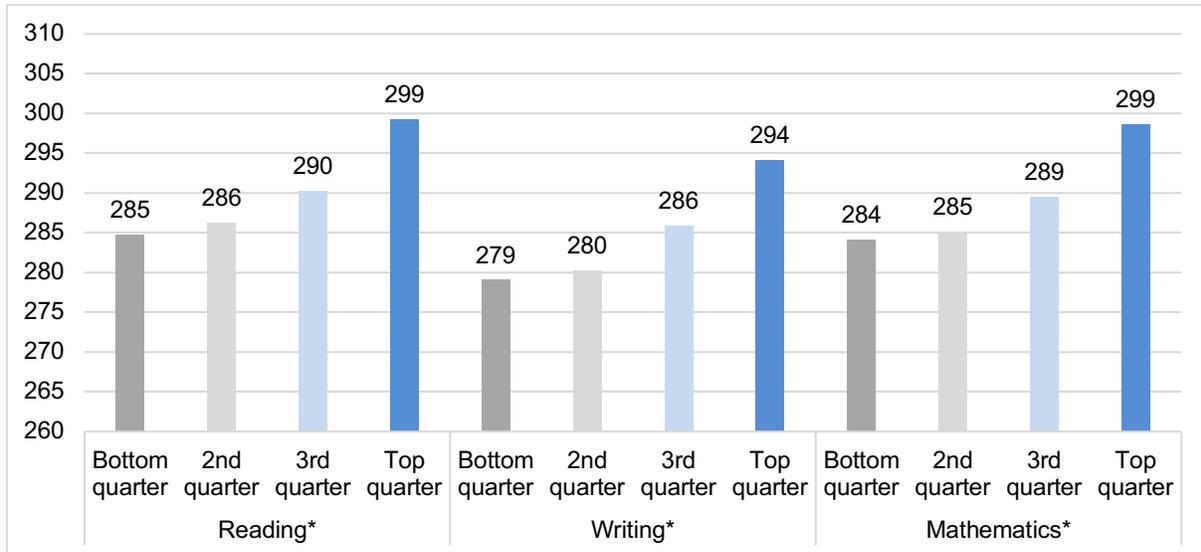
Note: * indicates a statistically significant difference in scores between students in the top quarter and bottom quarter
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5.5. Student performance by region

In Cambodia, we can see a significant difference between the performance of Grade 5 students in urban and rural schools. Students in urban schools outperformed those in rural schools in all three domains. As shown in Figure 3.46, students in urban schools outperformed students in rural schools in reading, writing and mathematics, with a score difference of 15, 13 and 15 points, respectively. This reflects persistent inequality in the opportunities to learn between students located in the two regions. According to recent studies on this issue, in developing countries, these differences might be related to differences in physical and financial resources, but more importantly, to differences in the quality of the human resources available in rural and urban communities (Piyaman et al., 2017).

Figure 3.46. Student performance in reading, writing and mathematics by region
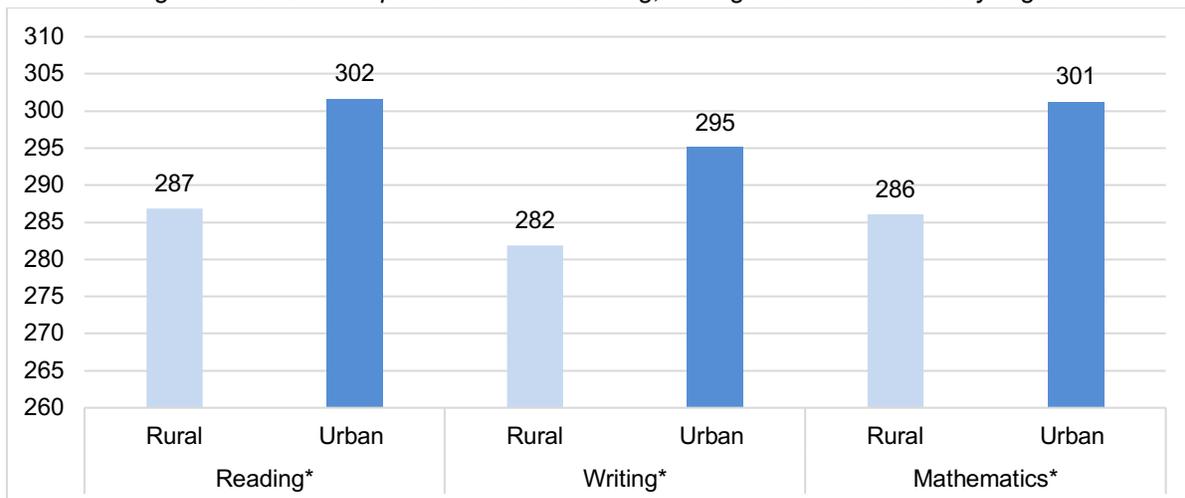
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

3.5.6. Student performance by geographical zones

Cambodian schools are divided into four geographic zones: Plains, Tonle Sap, Plateau and Coastal. As shown in Figure 3.47, the performance of Grade 5 students in Plains and Tonle Sap was the highest, and these two zones only have a very small difference (1 score point) between them in all domains. In contrast, students from the Coastal and Plateau perform slightly lower, but with a small difference between them. These results reflect a small, but sizeable inequality in learning between the different geographical zones of the country. Further research would be needed to determine the causes of these achievement differences and the courses of action to ameliorate them.

Figure 3.47. Student performance in reading, writing and mathematics by geographical zone
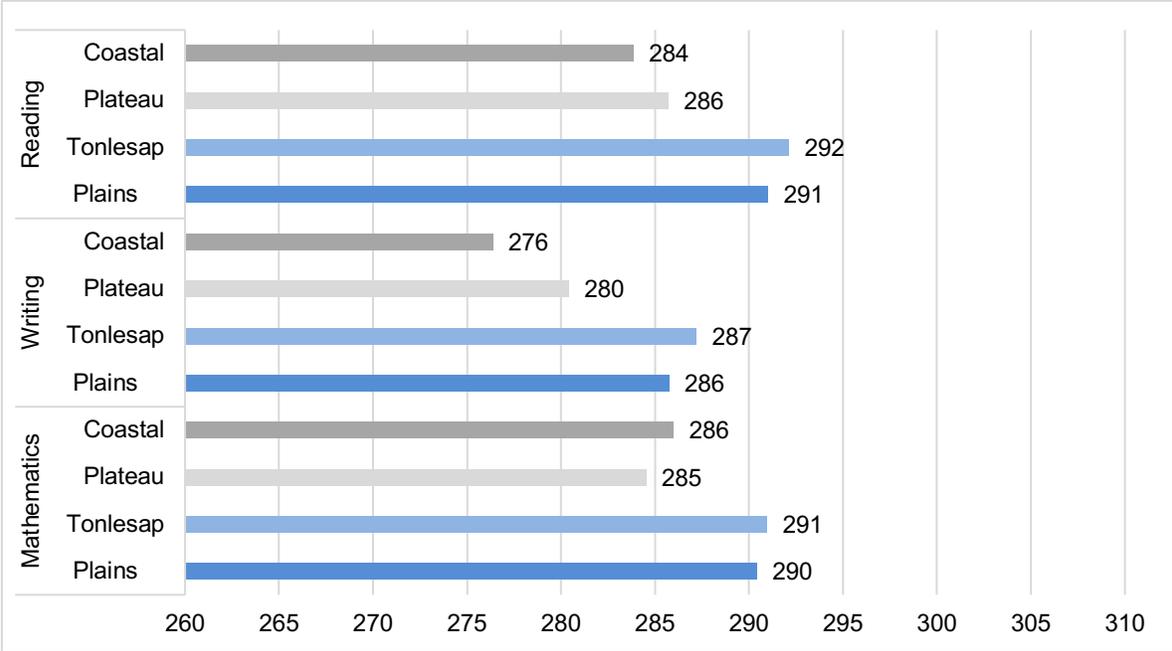
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6. Teachers' and classroom characteristics

This section describes the characteristics of teachers and classrooms. For teachers' characteristics, the variables reported here are gender, age, education level and engagement reported by teachers. Classroom characteristics, like teachers' confidence in using the teaching methods and approaches, confidence in teaching mathematics, reading and mathematics activities in the classroom, will also be described in this section. It is important to mention that because of the sampling strategy used in SEA-PLM, the information collected from teachers can only be analysed to report attributes of teachers, i.e. teachers' data cannot be merged with student-level data. More details on the sampling strategy used in SEA-PLM can be found in the Regional Report (UNICEF & SEAMEO, 2020).

3.6.1. Teachers' gender

Most of the Grade 5 teachers in Cambodia who participated in the SEA-PLM 2019 were male, at 55.7%. At the primary education level in Cambodia, there is only one teacher per grade for the whole year. This differs from the secondary level, where teachers work on their specific subjects across classrooms. Thus, teaching and learning in primary classrooms, whether joyful or stressful, mostly depends on only one teacher. As mentioned above, while the SEA-PLM 2019 data cannot be used to analyse the relationship between teachers' gender and students' achievement, some

studies have found that teachers' gender can have an impact on students' learning achievement. For example, in a study by Heather and colleagues (2012), female students who studied with female teachers were more likely to get lower math achievement, but not reading achievement. For male students, there was no association between reading or math achievement and the teachers' gender.

3.6.2. Teachers' age

In this report, the ages of teachers are classified into five groups (see Figure 3.48). In Cambodia, teachers aged between 25 and 54 years represent more than 80% of all teachers. Teachers in this age group are an important asset for the teaching force in the country, in terms of empirical knowledge, professional experience and motivation for teaching (Jensen et al., 2015). However, less experienced teachers (17.1%) and old age teachers (2.1%) are also important, as they bring qualified knowledge and professional experience, as well as motivation and encouragement to teach students.

Figure 3.48. Percentage of teachers in each age category
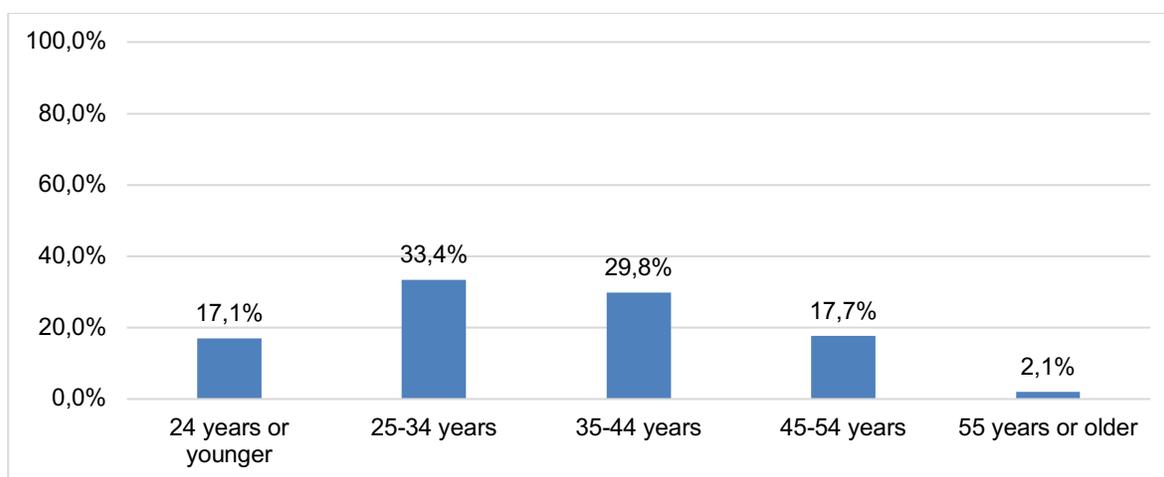
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.3. Teachers' education level

In Figure 3.49, below, 94% of teachers graduate at least from upper secondary level, 36% graduate from bachelor level and 1.2% have master's degrees. This distribution is consistent with their age, as most teachers are between 24 and 54 years old (80.3%).

From 1979 until now, the minimum education requirement for training teachers has varied and has gradually increased. Specifically, for primary level, the requirement is 3+1, 4+1, 5+1, 7+1, 8+1, 8+2, 11+2, and 12+2 (Fata, no date). These changes obey societal change and available human resources. In other words, a primary teacher in a 12+2 training program must complete Grade 12, with or without a certificate (MoEYS, 2014), plus two years of the teacher training program. Those findings align with MoEYS efforts on education reform to improve the quality of teachers and to build their professional skills, as H.E Dr. Hang Chuon Naron mentioned, the quality of teachers is considered to be the backbone of the education system[4].

Supporting teachers to improve their pedagogical skills and content knowledge is needed in every school, to expand the quality of education and be able to align with other countries in the region.

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[4] H.E. Dr. Hang Chuon Naron shared policy options at the official launch of SEA-PLM 2019 results (Dec 1, 2020).

Figure 3.49. Percentage of teachers in each education level
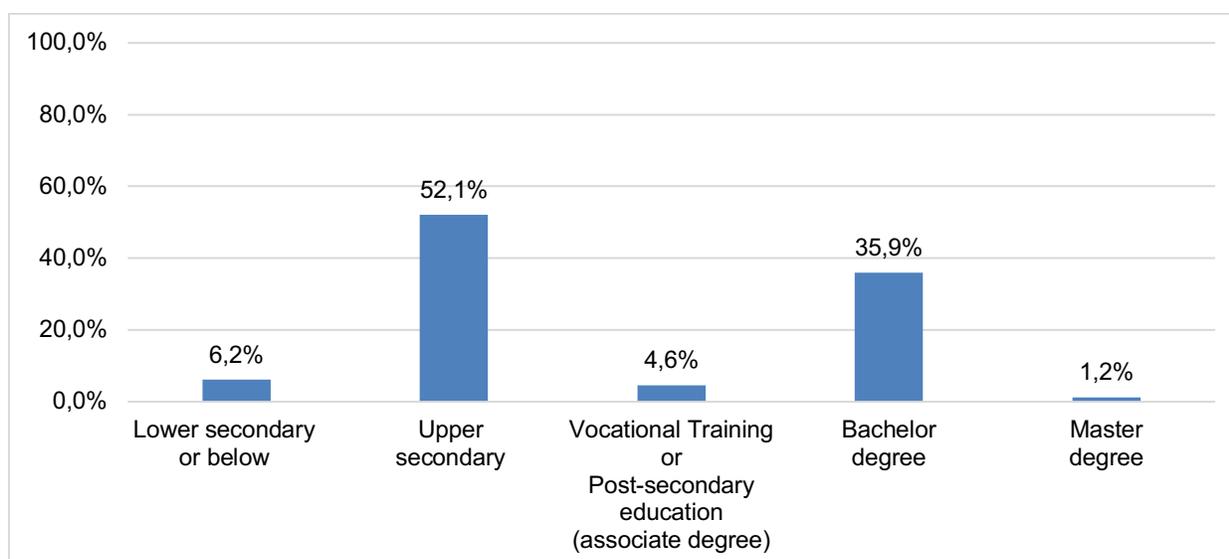
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.4. Teachers' perception of students' behaviour

Students' behaviour is known to be an important condition for good quality teaching and learning (Arum & Velez, 2012). Based on teachers' reports, the behaviour of Cambodian Grade 5 students is positive in all aspects measured by SEA-PLM (see Figure 3.50). While this positive behaviour does not seem to be translating into outstanding learning outcomes (if compared with the learning achievement of Grade 5 students in other participating countries in SEA-PLM 2019), it can be considered a solid base to construct strategies that allow Cambodia to improve the performance of its education system.

Figure 3.50. Percentage of teachers who reported on students' behaviour
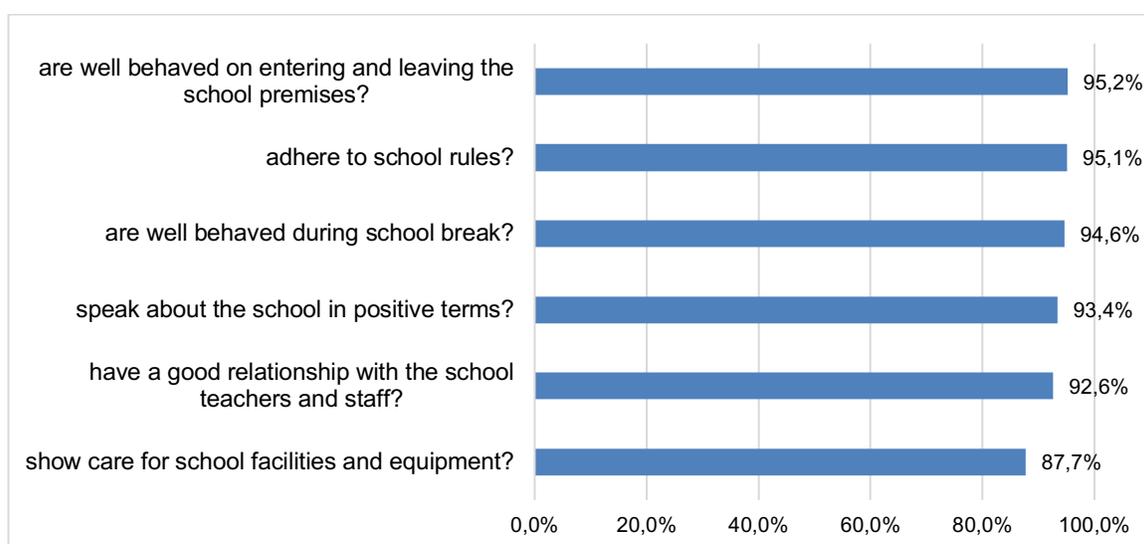
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.5. Issues that affect students' learning

Various factors influence students' learning outcomes. SEA-PLM 2019 focused on the following key issues, as shown in Figure 3.51. Based on teachers' observations in their classrooms, students' lack of basic knowledge and skills is a major concern. Some 82.2% of teachers reported this as a "moderate or large" issue. Students' lack of interest and absenteeism were reported at 65.7% and 56.6%, respectively. Other concerning issues were students' poor health (47.4%), lack of sleep (46.6%) and being hungry in class (44.5%). These learning issues are high, and MoEYS and relevant educational stakeholders need to take action.

Figure 3.51. Percentage of teachers who reported that the following issues had a moderate or large effect on the learning of Grade 5 students
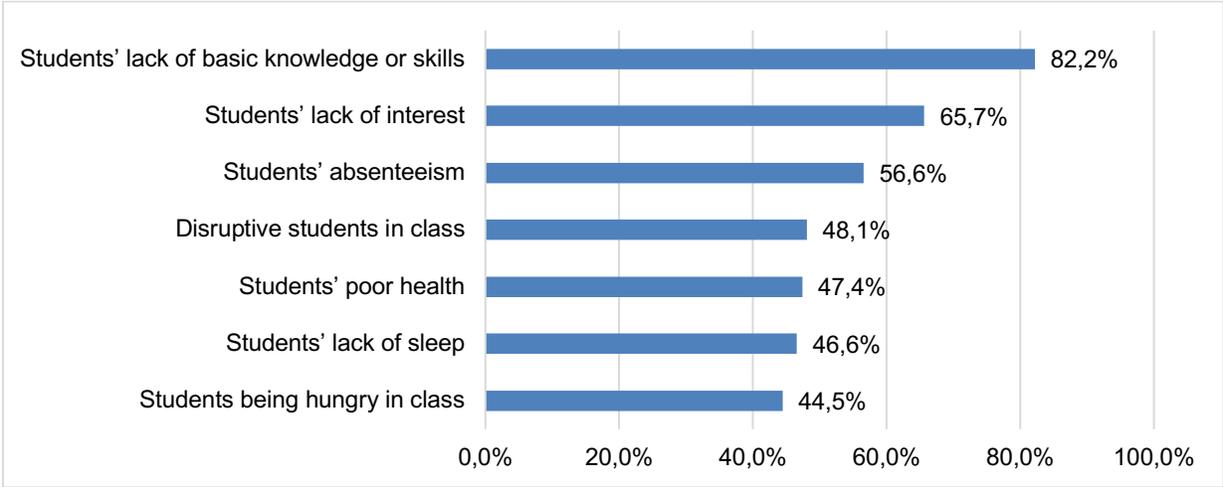
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.6. Classroom climate

Students were asked how often their teachers 'came to class late', 'had to wait a long time for students to quiet down', and how often 'teachers were absent'. The options were 'Often', 'Sometimes', 'Rarely' or 'Never'. As shown in Figure 3.52, approximately 60% of students reported that their teacher took a long time to settle the class down (sometimes or often), approximately half of the students reported that their teacher was late to class, and approximately half of the students reported that their teacher was absent.

Figure 3.52. Percentage of students who reported teachers' classroom-related issues as occurring 'often' or 'sometimes'
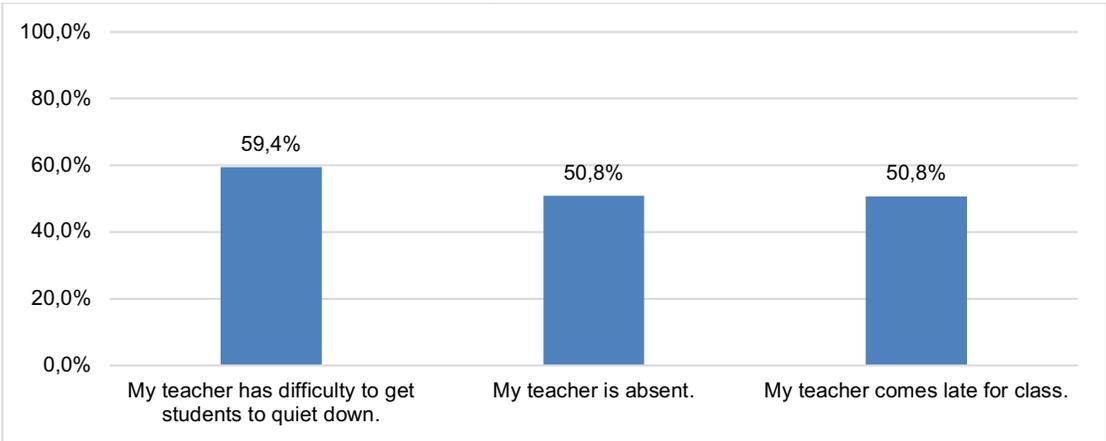
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.7. Teachers attending training

In the Cambodian education system, Grade 5 students learn with one teacher for the whole year, like other grades in primary level. The teacher must know and teach students all the subjects and topics in the curriculum for the corresponding grade. It is therefore important that teachers participate in in-service training activities in all the areas needed for their professional practice. The importance of this is more evident when considering that research has consistently shown that teachers who receive substantial professional development can significantly boost their students' achievement (see, for example, Yoon et al., 2007).

More than half (53.1%) of Grade 5 teachers reported receiving training on 'general teaching methods/pedagogy' in both pre- and in-service programs, and 19.6% reported this only in pre-service training. It is noted that primary teachers who reported no training at all (11.5%) and only in-service training (15.8%) are likely to be contract teachers. Contract teachers were introduced in 1996 as an intervention strategy to address the chronic shortage of teachers in rural areas, due to educational policy and expansion into former conflict areas. Since then, there has been a constant concern regarding the quality and efficiency of contract teachers (Geeves & Bredenberg, 2005). All Grade 5 teachers, excluding contract teachers, completed a pre-service training program, however contract teachers have access to in-service training programs only. The participation rates in these programs could reflect the existence of different types of teachers in the education system.

The analysis also shows that 12.2% of Grade 5 teachers reported receiving in-service training on student assessment topics, 21% in pre-service and 40.3% in both training modalities. Training on student assessment is considered fundamental for improving the quality of teachers. Since 2018, MoEYS has introduced student assessment training to teachers at all grades in the form of an in-service training program. The training program was organized through EQAD, and delivered to officials in provincial offices of education with the intention that they would deliver further training to teachers in the schools for which they are responsible. EQAD is the only expert department of MoEYS responsible for all sorts of student learning assessments in the country. Student learning assessment is one of the prioritized topics in the MoEYS Reform Strategy 2019-2023 (MoEYS, 2019). It is taught in the Teacher Upgrading Program, supported by the World Bank under the Secondary Education Improvement Project. The Teacher Upgrading Program provides a master training program to teachers of secondary level. The subject is going to be integrated into the inspection training course run by the National Institute of Education.

Topics that were less popular were ICT and inclusive education, or special needs education, with 74.8% and 64.4% of teachers, respectively, reporting no training at all.

Figure 3.53. Percentage of teachers who attended any teacher training on the following topics

General teaching methods/pedagogy: 11,5% | 19,6% | 15,8% | 53,1%
Classroom management: 16,1% | 22,6% | 15,9% | 45,3%
Reading in Khmer: 17,1% | 23,3% | 15,1% | 44,5%
Mathematics: 18,1% | 20,9% | 13,2% | 47,8%
Writing in Khmer: 20,6% | 20,9% | 15,1% | 43,4%
Social studies: 22,3% | 17,0% | 15,4% | 45,3%
Student assessment: 26,4% | 21,0% | 12,2% | 40,3%
Differentiated instruction: 38,5% | 19,6% | 11,2% | 30,7%
Inclusive education or special needs education (including the needs of children...): 64,4% | 14,1% | 4,8% | 16,7%
Information and communications technology: 74,8% | 7,5% | 4,1% | 13,6%

- No
- Yes during pre-service training only
- Yes during in-service training only
- Yes during both pre-service and in-service training only

Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.8. Teacher confidence in using the teaching methods and approaches

As demonstrated by previous research, teacher confidence is a key element of teacher professionalism and is a critical condition for enacting other areas of teachers' professional capital (Nolan & Molla, 2017). From the teachers who participated in SEA-PLM in Cambodia, more than 80% reported feeling quite or very confident in using different teaching methods and approaches in their classroom activities. Group work is the teaching method that most teachers feel confident with (94.8%), followed by collaborative teaching (89.6%), problem-solving (83.4%) and research work (82%). In contrast, using ICT-supported activities for teaching and learning is the lowest preference (43.9%). This finding coincides with the report that only a small number of teachers are trained on the use of ICT (see Figure 3.54).

Figure 3.54. Percentage of teachers who feel quite or very confident in using the following teaching methods and approaches
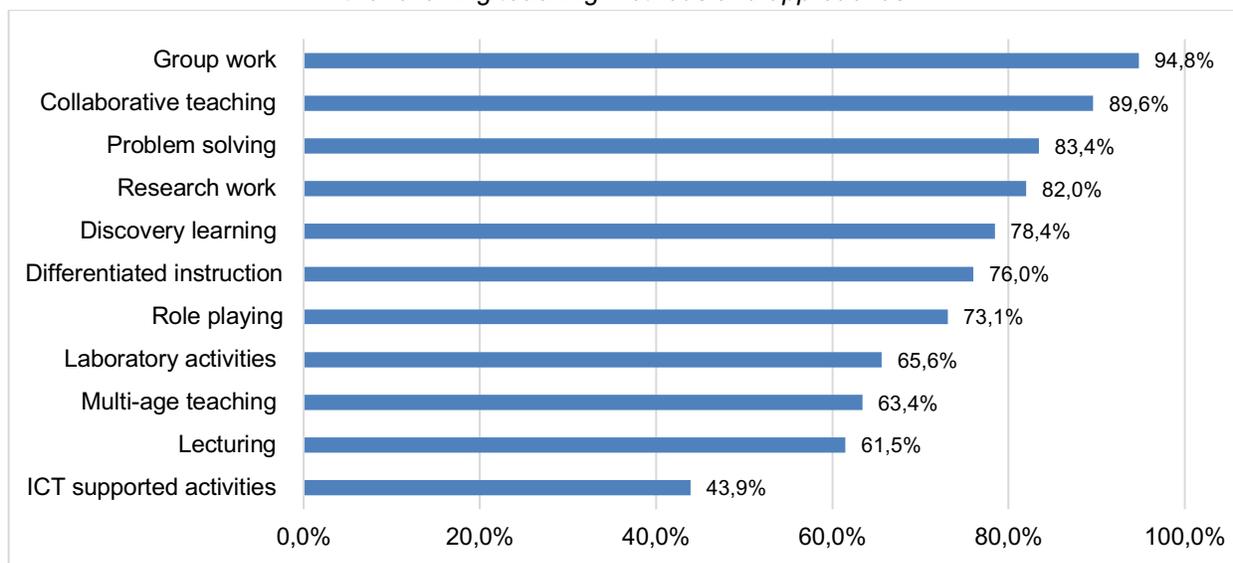
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.9. Teacher's confidence in teaching mathematics

In teaching mathematics, Cambodian teachers of students in Grade 5 reported that they felt confident in all teaching methods and activities measured in the SEA-PLM. As shown in Figure 3.55, 'providing challenging tasks for capable students' was the activity that the fewest teachers reported feeling 'quite or very confident' in (84%), while the activity that most teachers (95.4%) felt confident in was 'helping students appreciate the value of learning mathematics'.

Figure 3.55. Percentage of teachers who felt quite or very confident doing the following activities when teaching mathematics to their Grade 5 classes
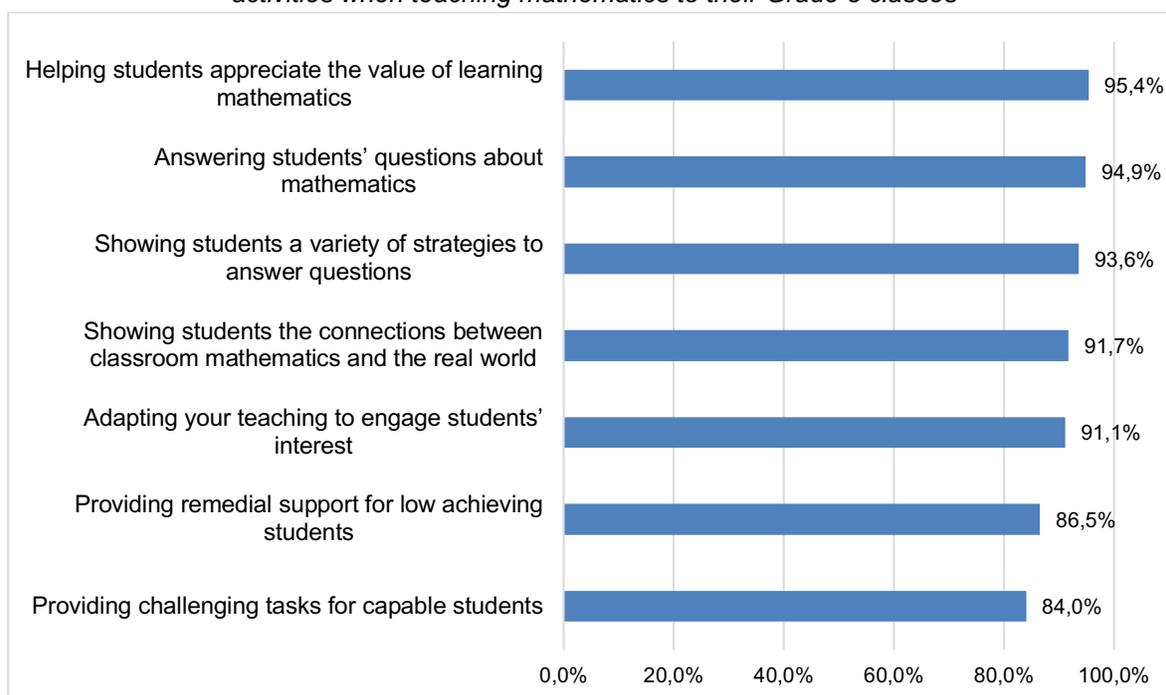
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.10. Teachers' emphasis on key aspects of reading activities

It was considered important to know the extent to which teachers focused on different key aspects of reading when teaching Grade 5 classes. In SEA-PLM 2019, teachers were asked a series of questions about their teaching activities (see Figure 3.56). Almost all Grade 5 teachers reported placing 'some or strong emphasis' on all the listed activities. 'Fluency (reading aloud with error)' was the most frequent activity (98.6%), followed by 'skimming or scanning strategies' (98.3%), 'reading aloud with expression' (95.3%) and 'decoding sounds and words' (95.3%).

Figure 3.56. Percentage of teachers who placed some or strong emphasis on teaching the following aspects of reading with their Grade 5 class
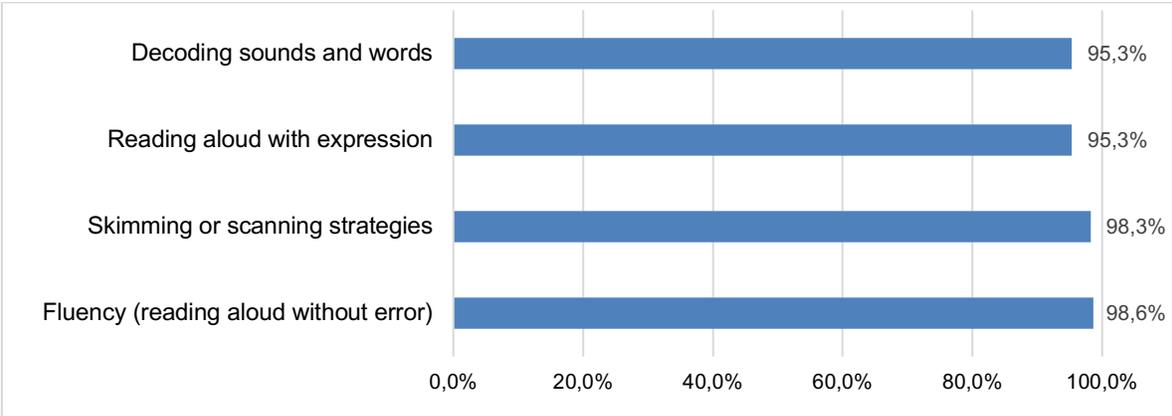
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.11. Reading activities in the classroom

Teachers were presented with a list of reading activities and were asked to report on the frequency with which they used them in the classroom. The response options were 'daily or almost daily', 'weekly' (at least once a week), 'monthly' (at least once a month) and 'never or hardly ever'. Figure 3.57 shows the list of reading activities. In general, the majority of teachers classified all reading activities as 'daily or almost daily': reading silently on their own (79.6%), reading aloud to the teacher (75.6%) and taking books home to read (73.5%). The activity with the lowest percentage in this group was reading books of their own choice (45.5%).

Figure 3.57. Frequency with which students completed the following reading activities in class
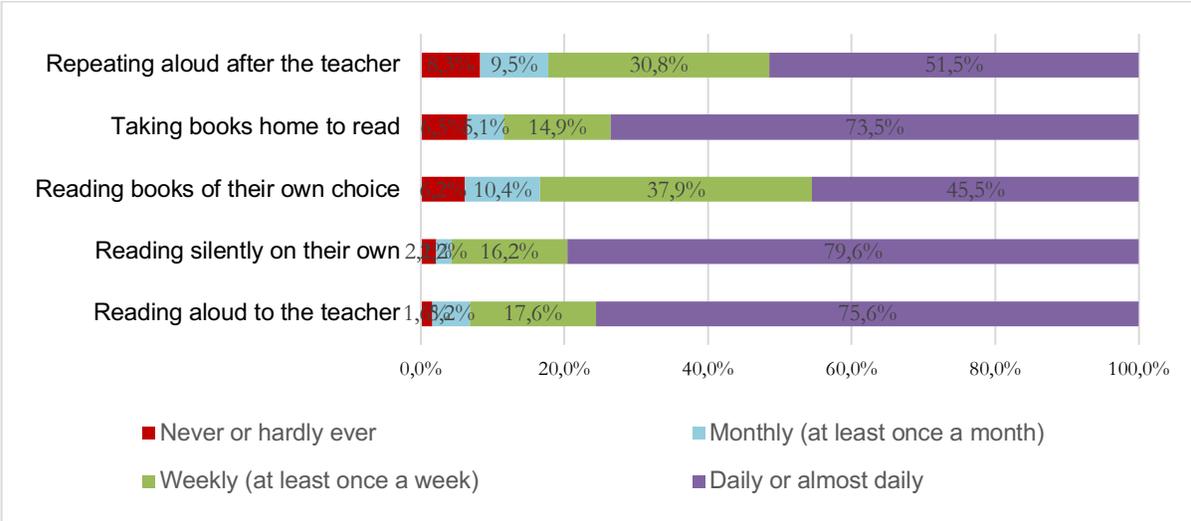
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.12. Reading comprehension activities in classroom

Regarding reading comprehension activities, more than 70% of teachers reported 'providing definitions of unfamiliar words in texts' (74.5%), while the activity less frequently used was 'identifying the main idea within texts'. As shown in Figure 3.58, 63.4% of teachers reported using this activity on a 'weekly basis'.

Figure 3.58. Frequency with which students completed the following reading comprehension activities in their Grade 5 classes
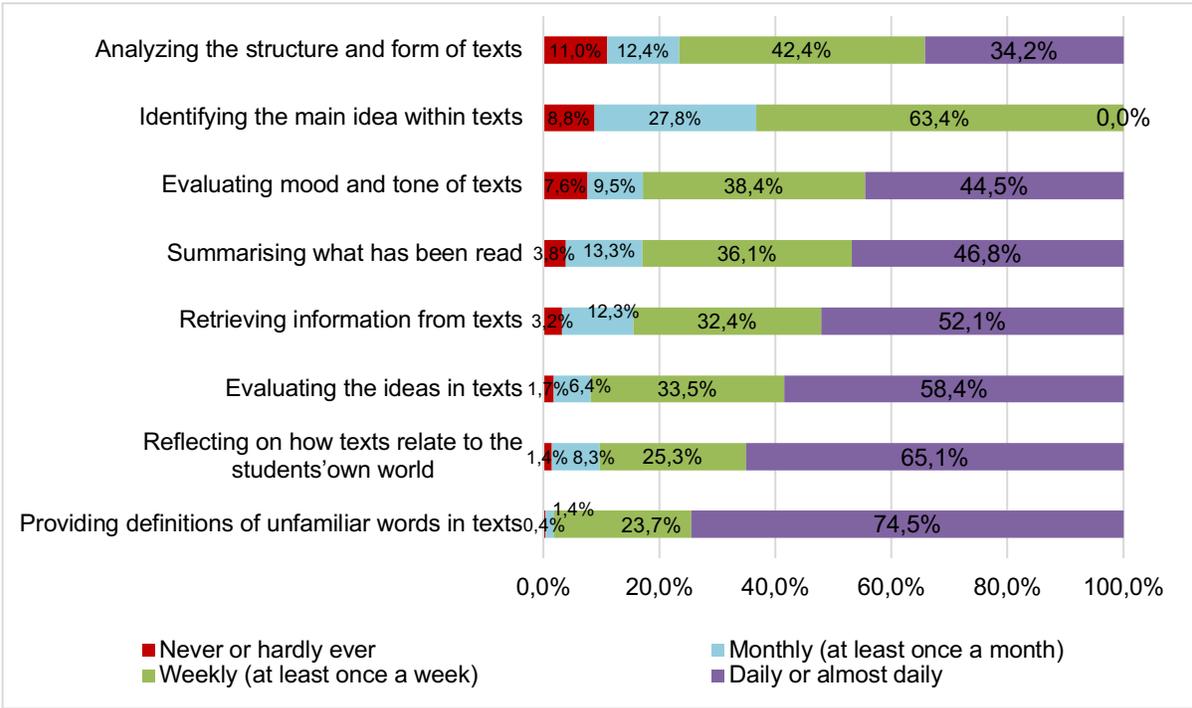
Source: Authors' own calculations from SEA-PLM 2019 Database

3.6.13. Mathematics activities in the classroom

In relation to mathematics activities, almost all teachers (97.9%) reported that their students 'daily or almost daily' listen to them explaining mathematics content to the class, followed by memorizing rules, procedures and facts (80.1%). Some students' mathematics activities were not reported to occur 'daily or almost daily' in classrooms, including answering mathematics questions on paper and answering mathematics questions in front of the whole class. It is also interesting that 35.6% of teachers reported that their students take a written test or quiz 'daily or almost daily'. Using only computer-based mathematics learning resources was the activity that was least often used by a significant proportion of teachers (96.1%). It was reported as 'Never or hardly ever' happening in the classroom. This result supports statistics on the proportion of teachers who reported having participated in ICT-related training, and also the low proportion of teachers feeling confident in teaching ICT-related topics (see Figure 3.53 and Figure 3.54).

Figure 3.59. Frequency with which students completed the following mathematics activities in their Grade 5 class

Listening to you to explain mathematics content to the class — 1,6% / 0,1% / 0,4% / 97,9%

Memorising rules, procedures, and facts — 2,8% / 0,3% / 16,8% / 80,1%

Relating what they are learning in mathematics to their daily lives — 1,0% / 6,5% / 17,2% / 75,3%

Explaining their answers to mathematics questions — 0,8% / 3,5% / 20,6% / 75,0%

Answering mathematics questions in small groups (with their peers) — 1,7% / 8,0% / 35,3% / 55,1%

Undertaking extended mathematics investigations — 4,1% / 19,9% / 36,1% / 39,8%

Taking a written test or quiz — 1,5% / 17,7% / 45,2% / 35,6%

Using computer-based mathematics learning resources — 96,1% / 1,4% / 0,7% / 1,8%

Answering mathematics questions in front of the whole class — 5,8% / 24,1% / 70,2% / 0,0%

Answering mathematics questions on paper (writing answers in a book or on worksheets) — 2,6% / 14,8% / 82,5% / 0,0%

Legend: ■ Never or hardly ever ■ Monthly (at least once a month) ■ Weekly (at least once a week) ■ Daily or almost daily

Source: Authors' own calculations from SEA-PLM 2019 Database

References

Christine, O. (No date). Impact of Parental Expectations on Education and Employment Outcomes. Virginia Policy Review. https://pages.shanti.virginia.edu/VPR_Journal_Team/files/2014/02/Impact-of-Parental-Expectations.pdf

Lindberg E.N, Yildirim, E., Elvan, O., Ozturk, D., & Recepoglu, S. (2019). Parents' educational expectations: Does it matter for academic success? SDU International Journal of Educational Studie, 6(2), 150-160. Doi: 10.33710/sduijes.596569. https://www.researchgate.net/publication/337583465_Parents'_Educational_Expectations_Does_It_Matter_for_Academic_Success

MoEYS. (2007). Education Law. Phnom Penh, Cambodia: MoEYS.

Pamela E. Davis-Kean. (2005). The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment. American Psychological Association, Vol. 19, No. 2, 294 –304. http://www.mikemcmahon.info/ParentEducationIncome.pdf

Fata, N. (No date). Reviews on Teacher Education and Training: A Case of Cambodia [Faculty of Education, Royal University of Phnom Penh]. https://www.academia.edu/24309433/Reviews_on_teacher_education_and_training_in_Cambodia

Geeves, R., & Bredenberg, K. (2005). Contract Teachers in Cambodia. Phnom Penh. https://www.researchgate.net/publication/44839009_Contract_teachers_in_Cambodia

Heather, A., Ozkan, E., & Serkan, O. (2012). The Effect of Teacher Gender on Student Achievement in Primary School: Evidence from a Randomized Experiment. http://ftp.iza.org/dp6453.pdf

MoEYS. (2014). Education strategic plan 2014-2018. Phnom Penh, Cambodia: MoEYS.

Royal Kram. (2007). Education law. Phnom Penh: National Assembly.

MoEYS. (2015). Education Statistics and Indicators 2014-2015. Phnom Penh: MoEYS.

MoEYS. (2018). Detailed curriculum for public preschool. Phnom Penh: MoEYS.

MoEYS. (2018). Education in Cambodia: Findings from Cambodia's experience in PISA for Development. Phnom Penh: MoEYS.

OECD. (2013). PISA 2012 Results: What Makes Schools Successful? Resources, Policies and Practices (Volume IV). Paris: OECD Publishing.

UNICEF & SEAMEO. (2017). SEA-PLM 2019 Global Citizenship Assessment Framework (1st ed.). Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat.

Jensen, B., Sandoval Hernandez, A., Knoll, S., & Gonzalez, E. (2015). The Experience of New Teachers: Results from TALIS 2008. OECD Publishing. https://doi.org/10.1787/9789264120952-en

UNICEF & SEAMEO. (2020). SEA-PLM 2019 Main Regional Report, Children's learning in 6 Southeast Asian countries. Bangkok, Thailand: United Nations Children's Fund

(UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat.

Arum, R., & Velez, M. (Eds.). (2012). Improving learning environments: School discipline and student achievement in comparative perspective. Stanford University Press.

Yoon, K. S., Duncan, T., Lee, S. W. Y., Scarloss, B., & Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement. Issues & answers. REL, (033).

MoEYS.(2019). Education Strategic Reform of Ministry of Education Youth and Sport 2018-2023. MoEYS.

Nolan, A., & Molla, T. (2017). Teacher confidence and professional capital. Teaching and Teacher Education, 62, 10-18.

Azina, I. N., & Halimah, A. (2012). Student factors and mathematics achievement: Evidence from TIMSS 2007. Eurasia Journal of Mathematics, Science and Technology Education, 8(4), 249-255.

Hogrebe, N., & Strietholt, R. (2016). Does non-participation in preschool affect children's reading achievement? International evidence from propensity score analyses. Large-scale Assessments in Education, 4(1), 2.

Sandoval-Hernandez, A., Taniguchi, K., & Aghakasir, P. (2013). Is participation in preschool education associated with higher student achievement? IEA's Policy Brief Series (2), pp. 1-8.

MoEYS. (2019). PublicEducation Statistics and Indicator 2018-2019s. Phnom Penh, Departmet of Education Management Information System: MoEYS.

UNICEF & Open Institute. (2020). Rsearch Report on Mid-line Assessment of Child-friendly Schools Performance. Phnom Penh.

UNICEF & SEAMEO. (2020). SEA-PLM 2019 Main Regional Report, Children's learning in 6 Southeast Asian countries. Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat.

Geesa, R. L., Izci, B., Song, H., & Chen, S. (2019). Exploring factors of home resources and attitudes towards mathematics in mathematics achievement in South Korea, Turkey, and the United States. EURASIA Journal of Mathematics, Science and Technology Education, 15(9), em1751.

Michaelides, M. P., Brown, G. T., Eklöf, H., & Papanastasiou, E. C. (2019). Motivational profiles in TIMSS mathematics: Exploring student clusters across countries and time (p. 144). Springer Nature.

Tan, C. Y., Peng, B., & Lyu, M. (2019). What types of cultural capital benefit students' academic achievement at different educational stages? Interrogating the meta-analytic evidence. Educational Research Review, 28, 100289.

Parcel, T. L., & Dufur, M. J. (2001). Capital at home and at school: Effects on student achievement. Social forces, 79(3), 881-911.

Caro, D. H., Sandoval-Hernández, A., & Lüdtke, O. (2014). Cultural, social, and economic capital constructs in international assessments: An evaluation using exploratory structural equation modeling. School Effectiveness and School Improvement, *25*(3), 433-450.

Agasisti, T., & Longobardi, S. (2017). Equality of educational opportunities, schools' characteristics and resilient students: An empirical study of EU-15 countries using OECD-PISA 2009 data. Social Indicators Research, 134(3), 917-953.

Mullis, I. V. S., Martin, M. O., Foy, P., Hooper, M. (2017). PIRLS 2016 International Results in Reading. Boston, MA: TIMSS & PIRLS International Study Center, Boston College.

OECD. (2019). PISA 2018 Results (Volume II) Where All Students Can Succeed. Paris: OECD Publishing.

Hannum, E., Liu, J., & Frongillo, E. A. (2014). Poverty, food insecurity and nutritional deprivation in rural China: Implications for children's literacy achievement. International Journal of Educational Development, 34, 90-97.

Hoover-Dempsey, K. V., and H. M. Sandler. 1997. "Why Do Parents Become Involved in Their Children's Education?" Review of Educational Research 67 (1): 3–42. doi: 10.3102/00346543067001003

Goodall, J. (2018). Leading for parental engagement: working towards partnership. School Leadership & Management 38 (2).

Bietenbeck, J. C. (2011). Teaching practices and student achievement: Evidence from TIMSS. Yayımlanmamış yüksek lisans tezi. CEMFI, 114.

Macnab, D. (2000). Raising standards in mathematics education: Values, vision, and TIMSS. Educational Studies in Mathematics, *42*(1), 61-80.

Heyneman, S. P., & Jamison, D. T. (1980). Student learning in Uganda: Textbook availability and other factors. Comparative education review, 24(2, Part 1), 206-220.

Gross, M. (1999). Imposed queries in the school library media center: A descriptive study. Library & Information Science Research, 21(4), 501-521.

Alexander, K. L., & Pallas, A. M. (1983). Private schools and public policy: New evidence on cognitive achievement in public and private schools. Sociology of education, 170-182.

Chernyshenko, O., Kankaraš, M., & Drasgow, F. (2018). Social and emotional skills for student success and wellbeing: Conceptual framework for the OECD study on social and emotional skills (Working Paper No. 173). OECD Publishing. https://doi.org/10.1787/db1d8e59-en

Yin M., (2020) "Opportunity for Whom? Understanding Curriculum-Oriented Out-of-School Time Math Learning", Journal of Critical Thought and Praxis 10(1). doi: https://doi.org/10.31274/jctp.11579

Piyaman, P., Hallinger, P. and Viseshsiri, P. (2017), "Addressing the achievement gap: Exploring principal leadership and teacher professional learning in urban and rural primary schools in Thailand", Journal of Educational Administration, Vol. 55 No. 6, pp. 717-734. https://doi.org/10.1108/JEA-12-2016-0142

Christine, O. (No date). Impact of Parental Expectations on Education and Employment Outcomes. Virginia Policy Review. https://pages.shanti.virginia.edu/VPR_Journal_Team/files/2014/02/Impact-of-Parental-Expectations.pdf

Lindberg E.N, Yildirim, E., Elvan, O., Ozturk, D., & Recepoglu, S. (2019). Parents' educational expectations: Does it matter for academic success? SDU International Journal of Educational Studie, 6(2), 150-160. Doi: 10.33710/sduijes.596569. https://www.researchgate.net/publication/337583465_Parents'_Educational_Expectations_Does_It_Matter_for_Academic_Success

MoEYS. (2007). Education Law. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2017). Results of Grade Six Student Achievement from the National Assessment in 2016. Phnom Penh, Cambodia: MoEYS.

MoEYS. (2018). Education in Cambodia: Findings from Cambodia's Experience in PISA for Development.

MoEYS. (2019). Public Education Statistics and Indicators 2018-2019. Phnom Penh, Cambodia: Department of Education Management Information System, MoEYS.

MoEYS. (2020). Result of Grade 3 Student Achievement from the National Assessment in 2019. Phnom Penh, Cambodia: Education Qualithy Assurance Department, MoEYS.

Pamela E. Davis-Kean. (2005). The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment. American Psychological Association, Vol. 19, No. 2, 294 –304. http://www.mikemcmahon.info/ParentEducationIncome.pdf

Rao, N., & Pearson, E. (2007). An Evaluation of Early Childhood Care and Education Programmes in Cambodia. MoEYS. (2019). Announcement of Procedures of Primary and Kindergarten Education Levels for 2019-2020. Vol.42 អយក.ម.ឆ.ន

Chapter 4. Students' outcomes associated with Global Citizenship

4.1.   Introduction

The recent incorporation of contents related to GC in education systems (Gaudelli, 2016) has generated an increasing amount of scholarship in this area (Goren and Yemini, 2017). The growing prominence of GC is often attributed to economic, social and political changes that have made countries more interconnected through enhanced international mobility and economic interdependency (Sandoval-Hernandez et al., 2018). It is, therefore, important to reflect constructively on the values and strategies of key actors who aim to provide answers to fundamental questions about the nature, purpose and applications of GC education for an array of local educational contexts, needs and conditions (VanderDussen Toukan, 2018).

This chapter contributes to this area by presenting findings on the average performance of Cambodian Grade 5 students in outcomes associated with GC. Complete information on the conceptualization and operationalization of GC is included in the SEA-PLM 2019 GC framework (UNICEF & SEAMEO, 2017). In this report, however, we focus on two main outcomes: Attitudes and values associated with GC, and behaviours and skills associated with GC. According to the GC framework, global citizens are defined as: *Global citizens appreciate and understand the interconnectedness of all life on the planet. They act and relate to others with this understanding to make the world a more peaceful, just, safe and sustainable place.*

The SEA-PLM framework includes the potential to assess the following three measurement sub-domains: cognitive outcomes, attitudes and values, and behaviours and skills. Moreover, each sub-domain has the same three content sub-domains: global citizenship systems, issues and dynamics; global citizenship awareness and identities; and global citizenship engagement. Table 4.1 demonstrates how the structure of the SEA-PLM framework supports the assessment. In the sub-domain, attitudes and values, two contents are assessed: content sub-domain 1: global citizenship systems, issues and dynamics (Letter D), and content sub-domain 2: global citizenship identities awareness and identities (Letter E). Behaviours and skills are only measured in content sub-domain 3: global citizenship engagement (Letter I). In this cycle of SEA-PLM, the students' cognitive abilities related to GC content were not assessed (UNICEF & SEAMEO, 2017).

Table 4.1. Relationship between core content and measurement sub-domains of GC

Measurement sub-domains	Content Sub-domain 1: Global Citizenship Systems, Issues and Dynamics	Content Sub-domain 2: Global Citizenship Identities Awareness	Content Sub-domain 3: Global Citizenship Engagement
Cognitive	A	B	C
Attitudes and values	D	E	F
Behaviours and skills	G	H	I

Source: SEA-PLM 2019 Global Citizenship Assessment Framework

4.2. Students' attitudes and values associated with global citizenship

In the first cycle of SEA-PLM there is an emphasis on collecting data related to attitudes and values associated with two GC content domains. This is acknowledging the relatively young age and educational experience of student respondents.

Students' attitudes related to content domain 1, Global citizenship systems, issues and dynamics, includes: (1) Attitudes towards key issues which occur locally and globally and the interconnected nature of these issues, such as climate change or pollution; (2) Attitudes toward key issues and dynamics central to global citizenship, such as freedom of speech, the rule of law, equity, the role of government and acceptance of diversity; and (3) Attitudes towards the value of learning about global citizenship-related issues and topics, such as global issues, diversity, non-violent conflict resolution, environmental protection, community development and languages, in the context of global citizenship. In this context, two aspects are measured: students' exposure to GC issues at school, and students' concern for global issues.

The second content domain that is measured is citizenship awareness and identities. The questions relating to content domain 2 focus on attitudes toward different levels of identity and identification with other children, both locally, regionally and in the global community. They also measure students' sense of interconnectedness by using a concrete example of responding to a natural disaster in another country. Students' identification as Asian and attitudes towards learning about GC-related issues are sub-outcomes of the second content domain that are measured in SEA-PLM.

4.2.1. Students' exposure to global citizenship issues at school

Exposure to GC issues at school is one of the elements used to look at the GC of Cambodian students. A set of statements and results are presented Figure 4.1. The figure shows the percentage of students who reported that they had learned 'some or a lot' about the topics of GC in school. Among the GC indicators, about two thirds of students (Figure 4.1) reported that they had learned about "How to protect the environment" and "Climate change" in school, whereas about half reported that they had learned "How to solve a disagreement peacefully". Fewer than half of the students reported that they had learned other indicators from school. This reflects that about 38% to 69% of Cambodian Grade 5 students had learned at least "some" GC at school, where the rest of the students might have not learned GC from their school.

Figure 4.1. Percentage of students who reported having learned some or a lot about the following topics at school
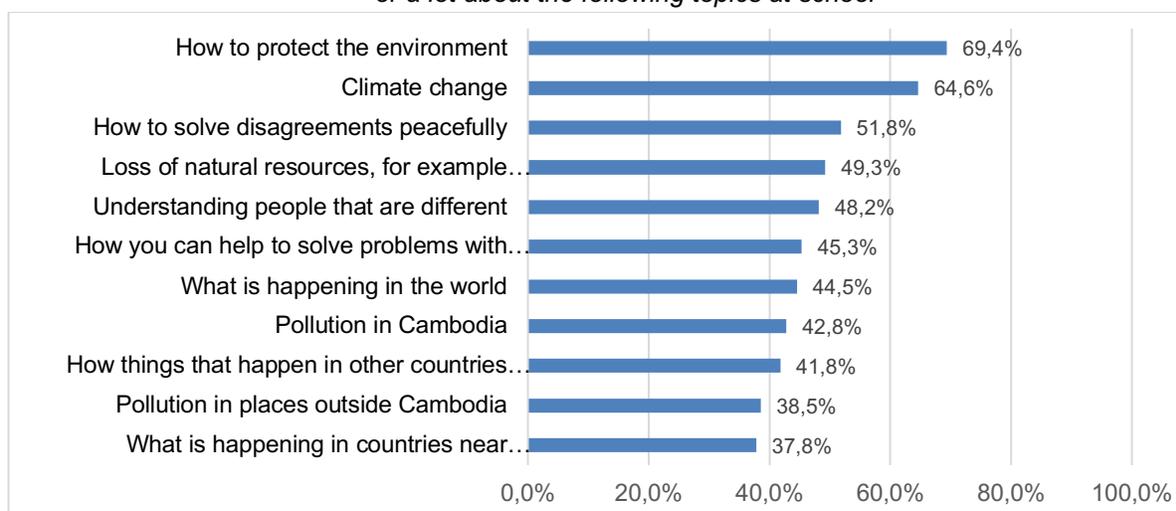
Source: Authors' own calculations from SEA-PLM 2019 Database

4.2.2. Students' concern for global issues

Concern about global issues is another element used to reflect the GC of Cambodian students. A set of statements and results are presented in Figure 4.2. The results indicate that 59% to 77% of students reported being "quite or very worried" about some issues happening in Cambodia, whereas only 59.3% of students were concerned about pollution outside of Cambodia. More interestingly, a strong correlation between some students' concerns and student performance was found, with a coefficient of 0.35 in reading, 0.26 in writing and 0.32 in mathematics. The majority of students are concerned with issues happening inside their country, and students who performed better in reading, writing and mathematics are more likely to have stronger concerns over those issues as well.

Figure 4.2. Percentage of students who reported being quite or very worried about the following issues
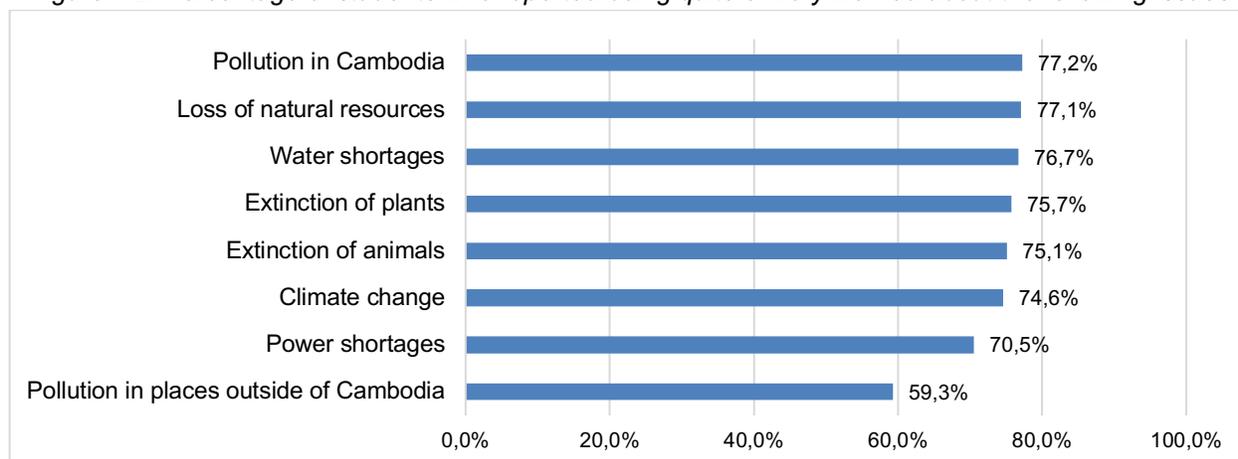
Source: Authors' own calculations from SEA-PLM 2019 Database

4.2.3. Students' identification as Asian

SEA-PLM asked students their level of agreement with various statements about national and regional identities. Two items focus on national identities: "I feel I belong to Cambodia" and "I feel a lot in common with other children in Cambodia". The other four items about regional identity were: "I think of myself as Asian", "I feel connected to the rest of the world", "I feel I have a lot in common with other children in Asia", and "I feel I have a lot in common with children in the world outside Asia". SEA-PLM identifies the national and regional identities of students by some statements illustrated in Figure 4.3. About half or fewer students opted for "agreed or strongly agreed" with the statements provided in relation to national and regional identity. The exception was the statement of "I feel I have a lot in common with other children in Cambodia", for which about 81% chose "agree or strongly agree". The percentage of students who agreed or strongly agreed with the statements indicating Asian identity was 50% and below, for example, 39% of students thought of themselves as Asian.

Figure 4.3. Percentage of students who agreed or strongly agreed with the following statements
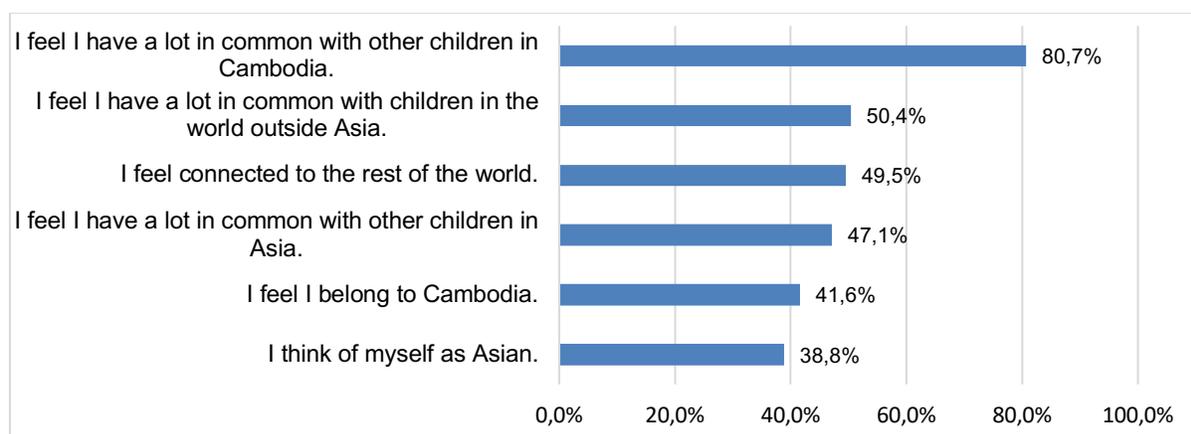
Source: Authors' own calculations from SEA-PLM 2019 Database

4.2.4. Students' attitudes towards learning about global citizenship-related issues

SEA-PLM measured students' attitudes towards learning about GC-related issues. Figure 4.4 illustrates that 52% to 88% of students selected the option of "quite or very important" for the statements provided in relation to GC-related topics, except the statements of 'Language spoken in other countries' (58%) and 'Understanding people that have different ethnicity/race to you' (52%). Overall, the majority (about two thirds) of Grade 5 students in Cambodia are more likely to be aware of the importance of GC-related topics they have studied.

Figure 4.4. Percentage of students who responded 'quite or very important' to
the following topics they have learned
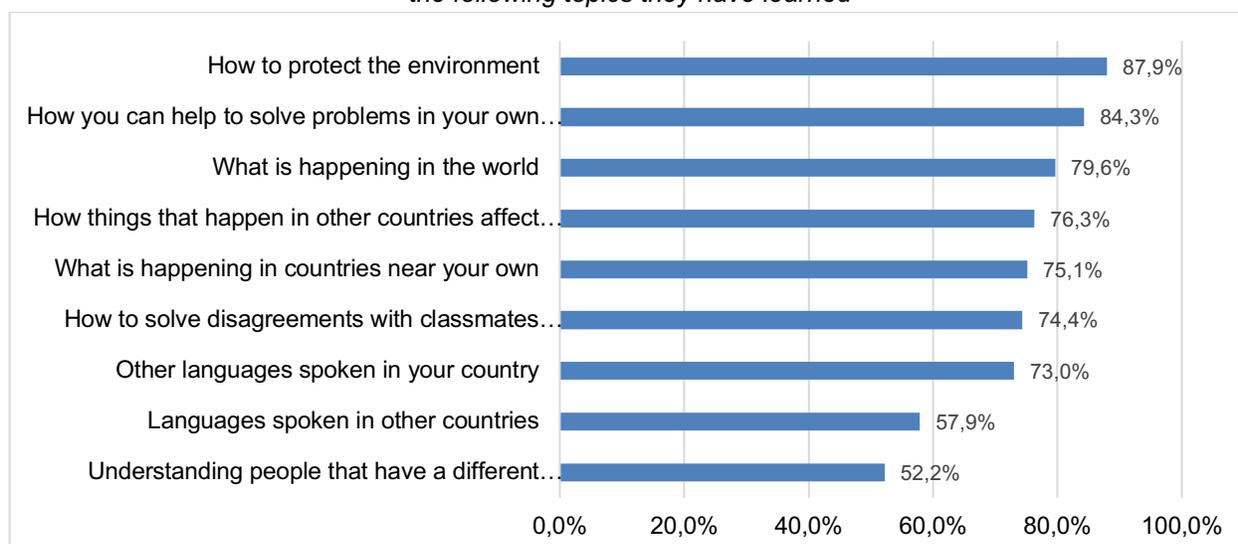
Source: Authors' own calculations from SEA-PLM 2019 Database

4.3. Students' behaviours and skills

As Table 4.1 shows, the second essential outcome of GC is behaviours and skills. It focuses on the content sub-domain 3: Global citizenship engagement. This content includes behaviours and skills, such as: presenting ideas, leadership, decision making, communication and advocating for improvement. It also collected information related to students' experiences of school-related activities to support the development of GC, such as: participating in programs to make the school more environmentally friendly, voting in school/class elections or presenting ideas and participating in classroom debates (UNICEF & SEAMEO, 2017).

4.3.1. Students' expected civic behaviour

SEA-PLM explored the willingness of students to participate in some activities related to civic behaviour. As Figure 4.5 shows, 76% to 87% of the Grade 5 students in Cambodia reported that they 'might do or will do' activities related to civic behaviour. It could then be inferred that the majority of Grade 5 students have a positive (strong) willingness to get involved and participate in any activities to promote civic behaviour in Cambodia.

Figure 4.5. Percentage of students who reported that they might do or were willing
to do the following activities
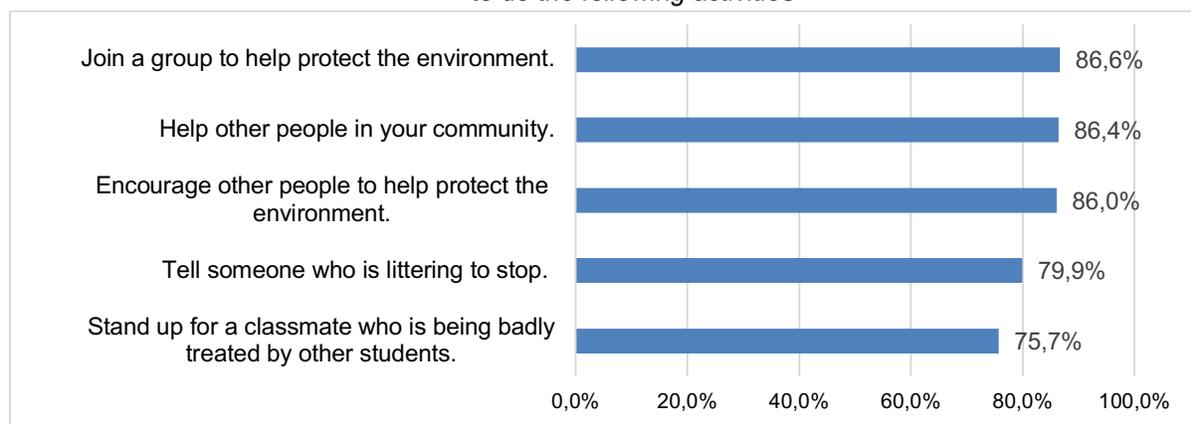
Source: Authors' own calculations from SEA-PLM 2019 Database

4.3.2. Students' behavioural intentions associated with global citizenship

Another set of indicators to examine the intention of students to do activities particularly related to civic behaviour in class and school are presented in Figure 4.6. The figure shows that a range of Grade 5 students, from 64% to 80%, or about two thirds on average, were 'likely or more likely' to participate in some activities related to civic behaviour in their class and school. About 46% of students intend to 'speak in an organized debate'. Cambodian students are likely to participate in activities associated with GC if they are given the opportunity at school.

Figure 4.6. Percentage of students who reported being quite likely or very likely to participate in the following activities at school
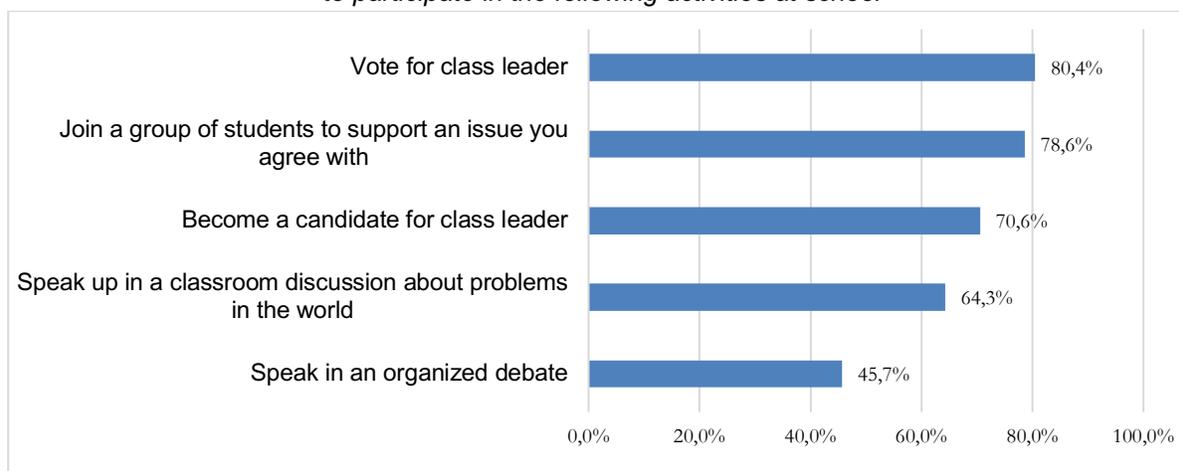
Source: Authors' own calculations from SEA-PLM 2019 Database

4.4.   Equity of global citizenship education

4.4.1. Student's attitudes, values and behaviours by gender

In order to promote a deeper reflection of these results, SEA-PLM data analysts explored students' attitudes, values and behaviours towards GC-related issues by gender and socio-economic status. To do this, the individual items explored above were summarized in a set of indices or scales, namely behavioural intentions associated with GC, attitudes towards learning about GC-related issues, Asian identity, concern for global issues, exposure to GC issues at school, and expected civic behaviour. Each index or scale was scaled to have a mean of 50 and standard deviation of 10. Detailed information on the construction of these scales or indices can be found in the forthcoming national report of SEA-PLM.

Figure 4.7 shows the students' attitudes, values and behaviours towards GC by gender. The results indicate that the differences in scale score between girl and boy students are generally small and statistically significant in five outcomes (see Figure 4.7). Furthermore, these differences in some cases favour boys (i.e. students' exposure to GC at school, identification as Asian, attitudes towards learning GC and behavioural intentions related to GC) and some others favour girls (i.e. students' concern for global issues and expected civic behaviour). These results suggest that the education system of Cambodia is providing similar opportunities to learn GC to all students, regardless of their gender.

Figure 4.7. Students' attitudes, values and behaviours by gender
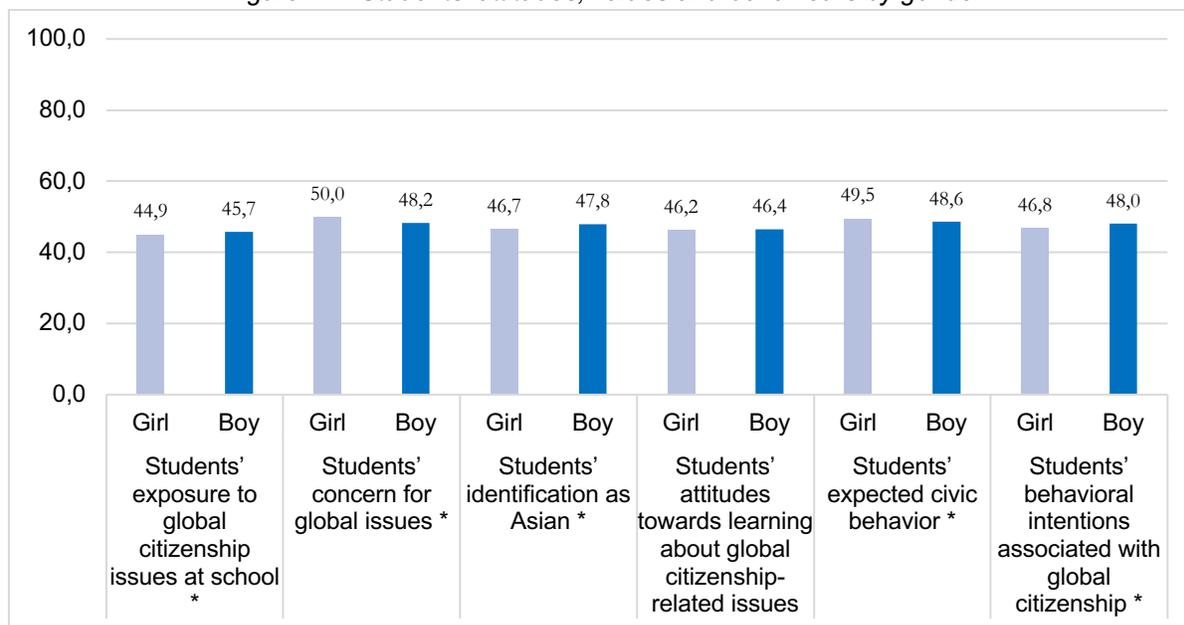
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

4.4.2. Students' attitudes, values and behaviours by socio-economic status

Figure 4.8 illustrates students' attitudes, values and behaviours towards GC by socio-economic status. The results indicate that the differences in score points between students in the top quarter of the distribution of socio-economic status and those in the bottom quarter are statistically significant in four outcomes (see Figure 4.8) and can also be considered small (i.e. it ranges between 1 and 5 score points). However, it is important to point out that in all cases, the differences are in favour of the more socio-economically advantaged students. Given the small size of the differences, it could be inferred that the Cambodian education system is providing similar opportunities to all students to learn GC, regardless of their socio-economic status.

Figure 4.8. Students' attitudes, values and behaviours by socio-economic status
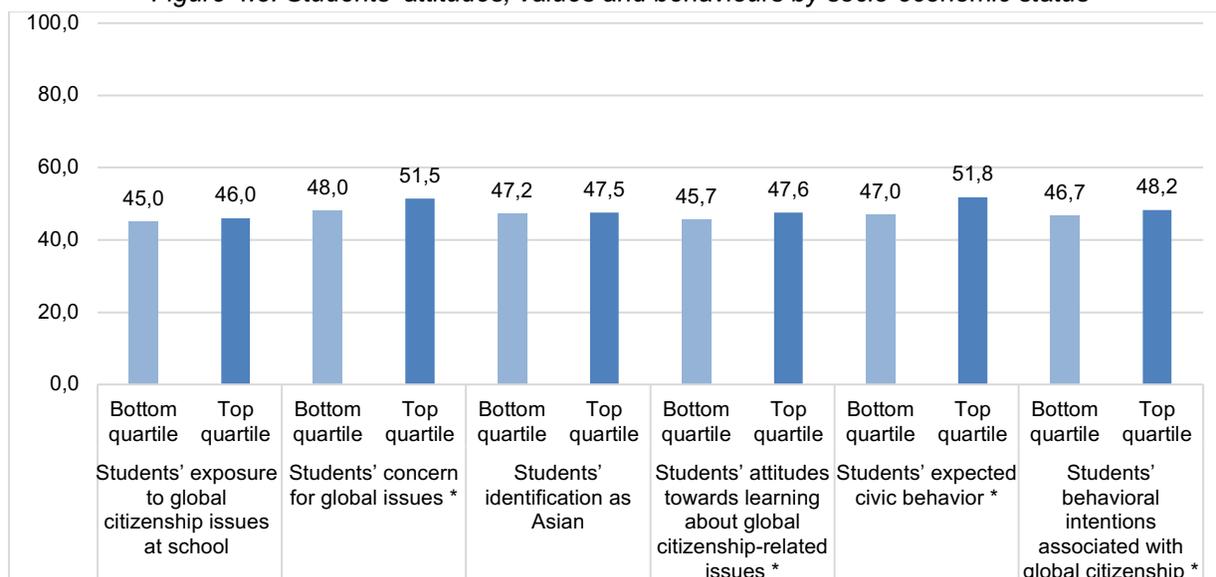
Note: * indicates that the difference is statistically significant
Source: Authors' own calculations from SEA-PLM 2019 Database

4.5. Teachers' perception of global citizenship education

The SEA-PLM teacher questionnaire provided valuable results to compare and correlate with student results. Questions included identifying teachers' main role (specialist learning area, whether students undertake GC education-related activities, how highly they value GC education content areas, skills, values and characteristics. The questionnaire collected valuable data on pre-service teacher education and GC, filling an important gap related to knowledge about whether pre-service teacher education includes GC education concepts, topics or themes.

4.5.1. Teachers' attitudes to students' GC learning at school

Questions were asked in relation to teachers' perceptions of GC while presenting the results from students. SEA-PLM also explored the perception of teachers on GC in order to compare with those of students. Figure 4.9 shows the percentage of teachers who perceived that each of the following content areas was quite or very important for Grade 5 students to learn at school. The analysis indicates that many teachers (from 75% to 100%) admitted that the GC-related topics presented in the figure below are quite or very important for students to learn, especially how to protect the environment. However, if looking more deeply, Cambodian teachers seem to value more the topics which are relevant to their own country, rather than the topics which are relevant to the regions of the world. It can be seen that Cambodian teachers realize the importance of GC-related topics that the students have to learn.

Figure 4.9. Percentage of teachers who perceived that each of the following content areas was quite or very important for Grade 5 students to learn at school
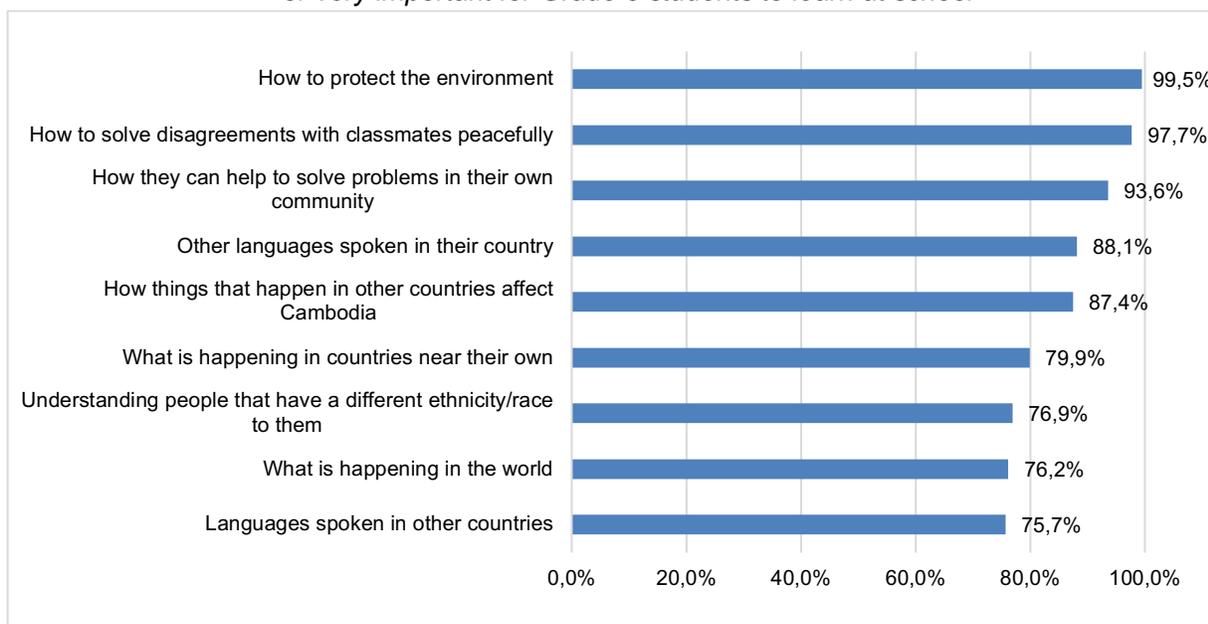
Source: Authors' own calculations from SEA-PLM 2019 Database

4.5.2. Teacher's attitudes to students global citizenship skills, values and characteristics

The second teachers' perception that was measured was the importance of developing GC skills, values and characteristics. Figure 4.10 illustrates the percentage of teachers who perceived that each of the following skills, values and characteristics was quite or very important for young people to develop. Interestingly, nearly 80% to 100% of teachers rated the skills, values and

characteristics presented in Figure 4.10 as quite or very important. The exception was 'valuing histories and cultures other than their own', at 36%. It can be seen that Cambodian teachers have realized the importance of skills, values and characteristics related to GC that young people should possess and develop. However, again, Cambodian teachers seemed to not value those which were relevant outside of their own country [nationalism].

Figure 4.10. Percentage of teachers who perceived that each of the following skills, values and characteristics is quite or very important for young people to develop

Source: Authors' own calculations from SEA-PLM 2019 Database

4.6.   Teachers' capability in global citizenship education
4.6.1. Pre-service preparation for global citizenship education

The SEA-PLM looked at the quality of pre-service teacher education programs in Cambodia, rated by teachers in relation to GC content. Figure 4.11 demonstrates the percentage of teachers who reported that pre-service teacher education programs prepared the specific content for teaching students 'quite well or very well'. The figure shows that nearly 80% to 100% of teachers evaluated the pre-service teacher education program as preparing them quite well or very well, especially on children's rights and environmental protection. The lowest percentage cited by teachers was for Globalization and Global current events. This indicates that Cambodian teachers rate the pre-service teacher education program as being of high quality in providing content in relation to GC, except those with a global focus.

Figure 4.11. Percentage of teachers who reported that the pre-service teacher education program prepared them quite well or very well to teach the following content

Content	Percentage
Children's rights	98,5%
Environmental protection	97,3%
Local current events	95,9%
Sustainable development	95,4%
Conflict resolution	93,1%
Respecting diversity	90,7%
Taking action to challenge inequality	88,9%
Inequality	87,4%
Peace and conflict	86,7%
Injustice	81,0%
Globalization	79,0%
Global current events	78,6%
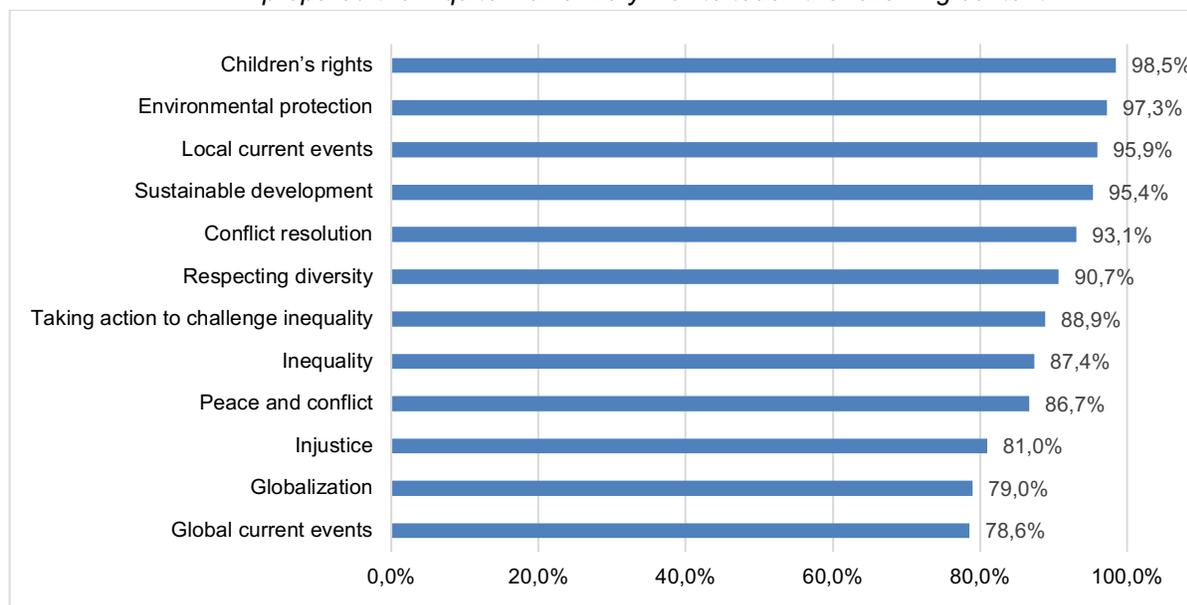
Source: Authors' own calculations from SEA-PLM 2019 Database

4.6.2. Confidence in teaching global citizenship topics

The last teachers' perception to be measured was the importance of developing GC skills, values and characteristics. Figure 4.12 illustrates the percentage of teachers who were quite confident or very confident teaching the content to Grade 5 students at their school. Some 80% to 100% of teachers are confident in teaching the content related to GC, except content related to Globalization and Global current events. This was consistent with the above finding. Where the teacher training program provided them with less knowledge, they were not be able to teach this to students.

Figure 4.12. Percentage of teachers who are quite confident or very confident teaching the following content to Grade 5 students at their school

Content	Percentage
Children's rights	98,4%
Environmental protection	96,9%
Local current events	93,9%
Conflict resolution	91,9%
Respecting diversity	91,1%
Peace and conflict	90,2%
Sustainable development	87,3%
Inequality	86,1%
Injustice	85,0%
Taking action to challenge inequality	83,6%
Globalization	68,5%
Global current events	66,5%
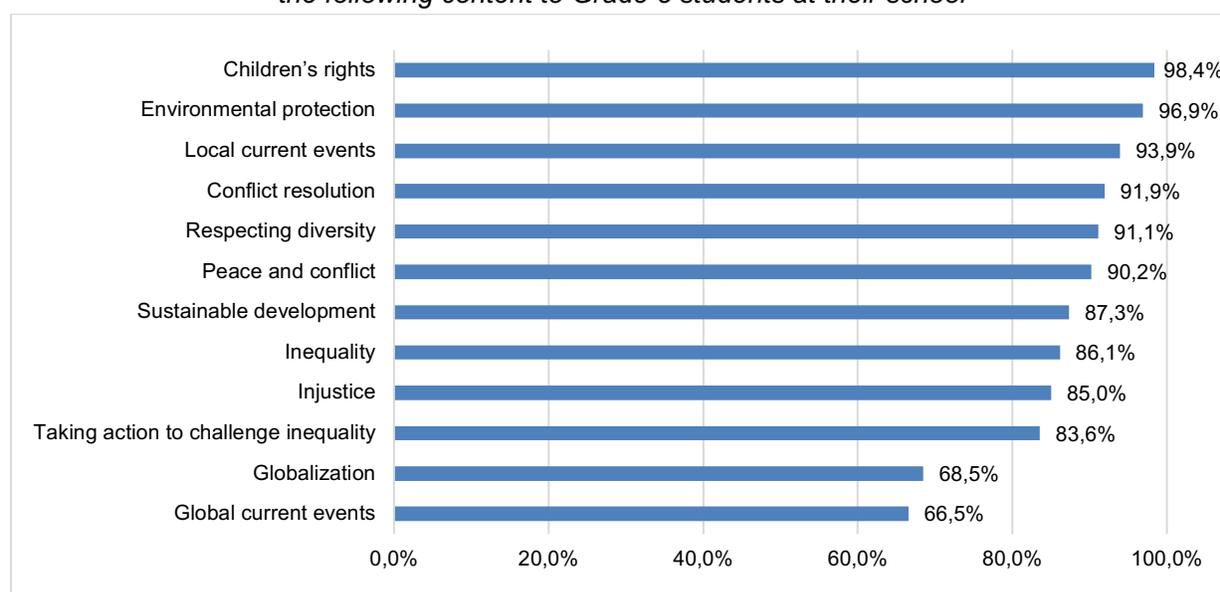
Source: Authors' own calculations from SEA-PLM 2019 Databas

References

Assembly, N. (2007). *Education law.* Phnom Penh: National Assembly.

MoEYS. (2015). *Education Statistics and Indicators 2014-2015.* Phnom Penh: MoEYS.

MoEYS. (2018). *Detailed curriculum for public preschool.* Phnom Penh: MoEYS.

MoEYS. (2018). *Education in Cambodia: Findings from Cambodia's experience in PISA for Development.* Phnom Penh: MoEYS.

OECD. (2013). *PISA 2012 Results: What Makes Schools Successful? Resources, Policies and Practices (Volume IV).* Paris: OECD Publishing.

UNICEF & SEAMEO. (2017). *SEA-PLM 2019 Global Citizenship Assessment Framework (1st ed.).* Bangkok, Thailand: United Nations Children's Fund (UNICEF) & Southeast Asian Ministers of Education Organization (SEAMEO) – SEA-PLM Secretariat.

Chapter 5. Summary of findings, reflective issues and recommendations

5.1. Introduction

This chapter presents the results of the SEA-PLM 2019 for Cambodia, focusing on key issues and possible solutions for improving the quality of education in the country. The chapter presents key findings, policy options and some responses from MoEYS that can be considered as initial solutions to promote the effectiveness of the education system in both the short and long term.

5.2. Key Findings

The data collected in SEA-PLM offers detailed information of students' performance in three cognitive domains (mathematics, reading and writing) and several GC outcomes. It collected rich information about the contexts in which teaching and learning occur. In this section, the key findings of SEA-PLM have been organized into four groups. The first group corresponds to Cambodian students' learning outcomes, while the following three groups correspond to the main factors associated with them, namely individual, school, and teacher and classroom factors.

From the three **cognitive domains**, Cambodian Grade 5 students achieved the highest average score in reading (290), followed by mathematics (289) and writing (285). Cambodian students performed very similarly to those from the Philippines and Myanmar, while students from Vietnam and Malaysia gained the highest scores in the three domains.

When compared to the UN SDG 4 indicators, SEA-PLM results suggest that around two thirds of Grade 5 students in Cambodia met the minimum proficiency level suggested by SDG 4.1.1a for the end of lower primary education, in both the reading and mathematics domains (76% and 64%, respectively). There was also an important proportion of Grade 5 Cambodian students who met the minimum proficiency level suggested by SDG 4.1.1b for the end of primary education, in both the reading and mathematics domains (11% and 19%, respectively).

Looking at the proportions of students located in the different proficiency bands considered in SEA-PLM, Vietnam and Malaysia can be considered as the best-performing countries, as the majority of students from these two countries were placed in the highest proficiency bands in each domain. Similarly, these two countries had the largest proportion of Grade 5 students meeting the minimum proficiency levels suggested by SDG 4.1.1a and SDG 4.1.1b.

In relation to the **GC outcomes**, between 38% and 69% of Cambodian Grade 5 students reported having learned at least some topics related to global issues at their schools. The majority of students also reported being concerned with a variety of global issues, and students who performed better in reading, writing and mathematics tended to have stronger concerns with GC issues as well.

SEA-PLM results suggest that slightly more than 50% of Grade 5 students reported not having a strong Asian identity, however about two thirds of them were more likely to be aware of the importance of learning about GC-related topics. Consistently, the majority of Grade 5 students have a strong willingness to get involved in activities associated with civic behaviours both in school and in the wider community.

Six **individual factors** were found to be more consistently associated with student outcomes: students' attitudes to school, gender and socio-economic inequalities, over age, grade repetition, preschool education and involvement of parents in supporting their children's learning.

The SEA-PLM findings indicate that Cambodian Grade 5 students who reported positive **attitudes towards school** also tended to perform better than those who had negative attitudes towards school in the three academic domains. Students who reported positive attitudes towards mathematics tended to perform better not only in mathematics but in the other two subjects also.

In terms of **gender equity**, Cambodian Grade 5 female students obtained higher average scores than Grade 5 male students in reading, writing and mathematics. Regarding **socio-economic inequality**, those students who come from more socio-economically advantaged families obtained higher average scores than their more disadvantaged peers.

The results also revealed that 33% of Grade 5 students **repeated grade 1** at least once. When disaggregated by gender, the results indicated that boy students reported a greater repetition rate than girls (35.4% vs 30.7%, respectively). Importantly, Cambodian students who had never repeated class outperformed those who had repeated at least one class in the three cognitive domains.

A sizable proportion of parents reported that they enrolled their children in education later than they should have according to current legislation. That is, about 19.4% of parents enrolled their children at age 7 or older. Late enrolment and repetition seem to be the main causes of Grade 5 student **over-age status**. Notably, on average, students at the normative age for Grade 5 outperformed students under or over age, the difference being larger compared to students above the normative age.

SEA-PLM data suggest that students who attended preschool for at least one year gained higher average scores than those who did not attend preschool at all. This result is important for the Cambodian education system, as 41.6% of Grade 5 students in the country reported not **attending preschool** or kindergarten.

Finally, **parental engagement** towards schooling was identified as an important factor in explaining the educational achievement of Cambodian students. Students who reported that their parents had engaged more with their learning activities at home obtained, on average, higher scores than those who reported that their parents were less engaged in learning activities.

Regarding school factors associated with Cambodian Grade 5 students' learning, the results from SEA-PLM suggest that the most important factors are school location, school administration, school level in the CFS program and the availability of a school library and textbooks.

The type of communities where schools are located continues to influence the learning outcomes of Cambodian Grade 5 students. Students enrolled in schools in **urban** settings outperformed students attending schools in **rural** areas, in reading, writing and mathematics. **Geographic zones** also played an important role: students who come from the Tonle Sap region obtained the highest average scores of the three domains, followed by those from the Plains, then those from Mountainous regions, with the lowest being those from the Coastal zone.

The type of school administration was also identified as a significant factor. In Cambodia, Grade 5 students who attend **private** schools outperformed those attending **public** schools, with a difference of 25 score points in reading, 23 in writing and 27 in mathematics.

When crossing-referencing information from SEA-PLM with data from the CFS program, results suggest that Grade 5 students who are studying in advanced level CFS schools outperformed those studying in basic and medium-level CFS schools in all three domains.

Concerning the availability of school libraries and textbooks, almost all Grade 5 students reported having Khmer and mathematics textbooks, only 2% to 3% said they did not have textbooks at all, and another 2% to 3% said they had to share textbooks with their classmates. Finally, about 75% of students reported that there was a library at their school.

The final group of key findings has to do with reports from or about teachers, for example, punctuality, classroom management, educational level, teacher training, and teachers' views on GC, and the factors that they considered detrimental to students' learning.

In relation to teachers' **punctuality** and **classroom management**, between 50% and 60% of the Grade 5 Cambodian students reported that their teachers came to class late, were frequently absent and had difficulty making students stay quiet in class. These situations represented the main reasons for losing teaching and learning time.

When asked about their **educational level**, 6% of Grade 5 teachers reported having completed primary school or a lower qualification, and 57% said they had completed upper secondary school or technical vocational education. A considerable number of teachers (37%) reported holding a bachelor's degree or a master's degree.

With regard to **training**, most Grade 5 teachers reported not receiving any training courses related to ICT and inclusive or special education (74.8% and 64.4%, respectively). Consistent with these results, only about 44% of teachers reported having confidence in teaching ICT-related topics. Additionally, a high percentage of teachers reported not having received any training courses on differentiated teaching methods and student learning assessments (38.5% and 26.4%, respectively).

Teachers surveyed in SEA-PLM agreed on the importance of students learning **GC related topics**. Cambodian teachers also recognized the importance of the skills and values related to GC that young people should possess and develop. Interestingly, in both cases, teachers seemed to assign a higher value to topics explicitly relevant to their country than to globally relevant topics.

Teachers said their **pre-service teacher education** program prepared them well to teach content related to GC. However, consistent with the value teachers assign to local vs. global issues, their levels of agreement and their confidence in teaching topics explicitly related to global issues were lower than for locally relevant issues.

Between 55% and 80% of teachers in Cambodia consider that student absenteeism, lack of interest, and lack of fundamental skills and knowledge are the most detrimental factors for student achievement. A lower proportion of teachers (45%) said other factors, such as students interrupting classes, poor health, lack of sleep and hunger negatively impacted achievement.

5.3.   Policy Options

The findings from Cambodia's participation in SEA-PLM suggest both accomplishments and opportunities. While Cambodian Grade 5 students performed below the regional mean in mathematics, reading and writing, most students met the minimum proficiency levels suggested by SDG 4.1.1b for the end of lower primary (76% in reading and 64% in mathematics). Most Cambodian students report having opportunities to learn GC topics at school, and most also report having positive attitudes towards these issues. Importantly, these opportunities, behaviours and attitudes are similar for all students regardless of their gender or socio-economic status. Most of their teachers recognize the importance of students learning about GC, and consider

themselves to be well prepared and feel confident to teach these topics. These results, however, are lower when GC is explicitly related to issues not directly relevant to Cambodia.

In this document, we sought to identify factors more consistently associated with the educational achievement of Cambodian students. Following, we present some policy options that can be derived from our findings.

Option 1: Implement strategies to bridge the gender gap:

Results from SEA-PLM confirm the findings of previous studies, that Cambodian girls outperform boys in mathematics, reading and writing. This finding is consistent with results from PISA-D and National Student Learning Assessments (MoEYS, 2016, 2017, 2018a, 2018b, 2019). The male disadvantage in education is a fairly recent, increasingly common and very complex phenomenon to understand. However, empirical evidence suggests that on top of performing lower than girls, boys are also more likely to be bullied, repeat a grade and drop out of school altogether. So, it is important and urgent to identify the causes of this phenomenon to design and implement interventions that help close this gap.

Option 2: Improve the quality of instruction for socially disadvantaged groups:

In alignment with previous studies from Cambodia and worldwide, SEA-PLM shows that students from socio-economically disadvantaged backgrounds perform considerably lower than their more socio-economically advantaged peers. This suggests that children from low socio-economic backgrounds do not receive the same learning experiences in or out of school as their counterparts from higher socio-economic contexts. It is therefore important to make sure that all children receive the same opportunities to learn, regardless of their socio-economic background.

Option 3: Reduce grade repetition:

The original idea of implementing a repetition strategy in the education system in Cambodia was to help improve the capacity of slow-learners before promoting them to the next grade. However, international assessments (e.g. PISA and PISA-D) have consistently shown that repetition can cause students to drop out, and increase national educational expenditure (MoEYS, 2018; p21). Reducing grade repetition could help reduce the dropout rate and decrease educational expenditure. However, it is important to note that promoting students to upper grades without having full basic knowledge and skills could cause learning issues in the upper grades. To solve this issue, schools [teachers and communities] could take compensatory actions, like providing additional courses or quality support to slow learners before promoting them to upper grades.

Option 4: Strengthen the quality of preschool:

Many studies, including PISA-D, national assessments (for Grade 3, Grade 6 and Grade 8), and the SEA-PLM revealed a positive association between preschool attendance and academic performance of students (MoEYS, 2016, 2017, 2018b). It is important to point out that SEA-PLM results also showed that students who attended preschool for more than one year performed lower than those who attended only for one year. This is a counterintuitive finding, as there is no repetition policy applied in preschool. There are three levels of preschool in Cambodia. The lower level (for one- to three-year-old children), medium level (for four-year-old children) and advanced level (for five-year-old children). It would be logical to think that the more years a child spends in preschool, the higher the achievement he or she would have. However, the results indicate the opposite. This offers an opportunity to have a closer look at the curriculum and pedagogic

strategies being implemented at this level. Cambodian children can fully benefit from the investment that is currently being made in preschool and basic education.

Option 5: Enhance the implementation of child-friendly schools at school level:

The CFS Policy is a school-improvement policy that has been implemented in the education system for some years. SEA-PLM revealed its positive impact on student performance. Enhancing CFS implementation at primary school level and potentially expanding it to secondary school level could help attract students to school (note that improving attitudes towards school is another factor that was identified as having a positive association with student performance by SEA-PLM). Some important considerations must be made. These analyses revealed a difference in performance between students in schools with basic and advanced CFS levels, but no significant difference was found when compared with students in schools with medium CFS levels. This finding suggests a need to look back at some points, such as CFS self-evaluation tools, the process of rating schools (basic, medium and advanced), incomplete implementation of CFS policies, and so on.

Option 6: Promote more mathematics education at primary level:

Mathematics is a fundamental knowledge and skill for life. This study revealed the impact of positive attitudes towards mathematics on the performance of students, not only in mathematics but also in reading and writing. Promoting positive attitudes towards mathematics seems to be a potential strategy to help improve the education quality of children in all areas.

Option 7: Increase parental engagement/participation with their children's education:

Parental engagement appeared to influence children's learning outcomes, as assessed by SEA-PLM. It seems that implementing a comprehensive strategy for MoEYS, school principals, teachers, educators and all relevant stakeholders to encourage parents to engage with their children's education could help improve their educational achievement. The involvement suggested here should not be limited to follow up on school homework or to push children to learn at home, but should also include discussions between parents, teachers and school principals to find solutions to increase the quality of educational opportunities offered at home and school. From this point of view, parental engagement in children's education should be seen as a tool to guarantee and sustain the quality of education in school.

Option 8: Promote Global Citizenship and Asianization, especially among teachers:

Promoting globalization and *Asianization* would help to achieve the idea of "we are the same" as well as "education for all". This is especially important in a world that is more globalized than ever. GC education nurtures personal respect and respect for others, wherever they live. It encourages individuals to think deeply and critically about what is equitable and just, and what will minimize harm to the planet.

Option 9: Strengthen teacher education program in Cambodia to respond to the globe:

The Teacher Education Program must be addressed for long-term success. Conducting the right reform of the teacher education program, for example, changing teaching methods to 21st century teaching methods, encouraging Cambodian young teachers to actually love their profession, updating and upgrading the content knowledge and pedagogical content knowledge of next-generation teachers, as well as the old generation teachers, would help equip children with full basic universal skills.

5.4.   Policy Responses

After the preliminary results from Cambodia based on the SEA-PLM 2019 were released, MoEYS called for an Assessment Steering Committee Meeting, led by His Excellency the Minister of MoEYS. The meeting discussed the key findings and suggested policy options and solutions to solve the issues – so-called responses. As a result, the meeting produced the following responses for MoEYS to address to improve the quality of education in Cambodia.

1. Strengthen the teacher training program by focusing on the teaching methodology and packages of early grade reading and early grade mathematics. Build the reading foundation and contribute to improvements in terms of reading and mathematics to respond to the findings of the assessment.

2. Promote the quality of teachers and principals. Introduce career pathways and evaluation approaches to encourage good teachers and school principals. The quality of education rests on the quality of teachers, and the best principals are the backbone of the education system.

3. Increase the number of community preschools to increase access, and promote a comprehensive approach to transforming all preschools to the same standard, both community and state preschools. This will increase access to early childhood education and strengthen the quality of teacher training programs for community preschool. It will also provide teaching support and materials to preschools.

4. Strengthen the quality of early childhood education to reduce repetition and drop-out rates in Grade 1, as it is important for early childhood education, especially pre-school to strengthen reading in primary education. It is important to provide a comprehensive approach for the development of children, including focusing on providing meals at school and additional nutrition to children living in vulnerable areas, as well as providing hygiene and clean water at schools in rural areas.

5. To improve the quality of reading and reading comprehension, we must introduce dictation, writing of short essays, and composition in the curriculum at the primary level. This is important to build the foundation for the success of children in secondary education. Learning to write is also important. Because children now use a lot of 'gadgets', such as smartphones, they spend less time writing and they need to learn and maintain this skill.

6. Improve the contents of textbooks to introduce a concept-based curriculum. Particularly in addressing GC, we must improve the contents of social science textbooks at the primary level so that textbooks respond to the strategic issues identified in the assessment.

7. Strengthen primary CFS, which is the main concept at the primary level. If a school is at an advanced level of CFS, it performs better. Therefore, it is important to focus on all aspects of school management, especially transforming schools to be child-friendly, so that it creates a culture and climate inclusive of teaching and learning.

8. Strengthen school-based management by focusing the leadership and management of school directors on teaching and learning, learning outcomes of children, and parents' participation in school management. Create a school improvement plan and school management committee, where we allow parents to participate. We must reduce the dropout rate of children and absenteeism of children and teachers, and promote the use

of active learning methods. We must ensure that teachers follow-up with children regularly, especially to check their homework.

9. Encourage parents, communities and local authorities to contribute to school management in order to support teachers and principals, and to be part of the learning process, as mentioned in the assessment.

10. Train professional librarians and equip school libraries with books that align with the level of students' reading skills. Integrate reading in the library as part of teaching and learning activities.

5.5. Conclusion

Cambodia's participation in the SEA-PLM program provided invaluable benefits and experience, especially in terms of a reliable dataset for early childhood and primary education. The data could help highlight: the quality of early childhood and primary education; the explicit and implicit factors driving that level of education; and what educators and relevant stakeholders at all levels, including government, should do to achieve the expected goals in future.

Based on the high quality and validity of the data, Cambodia could use the evidence to optimize the quality of education and create policy options and responses for all MoEYS leaders, policymakers, educators and other relevant stakeholders.

The other significant benefit gained from participating in the SEA-PLM is the improved capacity of the Cambodian technical team to carry out empirical large-scale assessments, especially on data collection procedures, data management and analysis, and report writing. Technical teams at national level (EQAD) and sub-national level of MoEYS specifically benefited.

We acknowledge the Royal Government of Cambodia, especially MoEYS, as well as UNICEF Cambodia and other stakeholders who allowed us to engage in this invaluable program. The presence of Cambodia in the next cycle of SEA-PLM would provide another opportunity for Cambodia to reflect on improvements in the education sector in future.

References

MoEYS. (2016). *Results of Grade Three Student Achievement from the National Assessment in 2015*. EQAD.

MoEYS. (2017). *Results of Grade Six Student Achievement from the National Assessment in 2016*. EQAD.

MoEYS. (2018a). *Education in Cambodia: Findings from Cambodia's experience in PISA for Development*. EQAD.

MoEYS. (2018b). *Results of Grade Eight Student Achievement from the National Assessment in 2017*. EQAD.

MoEYS. (2019). *Results of Grade Eleven Student Achievement from the National Assessment in 2018*. EQAD.

Annexes

Annex 1. Chapter 2

Table 1.1. National reading average by participating countries

Participating countries	Mean
Cambodia	290 (0.82)
Lao PDR	275 (0.78)
Malaysia	319 (1.13)
Myanmar	292 (0.78)
Philippines	288 (0.91)
Vietnam	336 (0.88)
Average six countries	300 (0.37)

- Standard errors appear in parentheses.

Table 1.2. Proportion of children at Grade 5 by reading band by participating country

	Band 2 and Below	Band 3	Band 4	Band 5	Band 6 and above
Cambodia	24 (1.26)	24 (1.02)	25 (0.76)	16 (0.93)	11 (1.01)
Laos PDR	50 (1.74)	26 (1.23)	16 (0.91)	6 (0.55)	2 (0.41)
Malaysia	5 (0.71)	7 (0.91)	12 (1.07)	18 (0.87)	58 (2.06)
Myanmar	19 (1.41)	26 (0.91)	28 (1.02)	16 (0.94)	11 (0.78)
Philippines	27 (1.51)	29 (1.19)	22 (0.98)	12 (0.88)	10 (1.21)
Vietnam	**1 (0.29)**	2 (0.43)	5 (0.58)	10 (0.79)	82 (1.42)
Average six countries	21 (0.51)	19 (0.40)	18 (0.37)	13 (0.34)	29 (0.51)

- Standard errors appear in parentheses.
- In bold - results based on fewer than 30 students and/or 5 schools should be interpreted with caution. Because results are rounded to the nearest whole number some totals may appear inconsistent.

Table 1.3. Percentage of Grade 5 students who have met the minimum proficiency in reading for the end of lower primary by countries

	have not met the minimum proficiency level suggested by SDG 4.1.1a for the end of lower primary	have met the minimum proficiency level suggested by SDG 4.1.1a for the end of lower primary
Cambodia	24	76
Laos	50	50
Malaysia	5	95
Myanmar	19	81
Philippines	27	73
Vietnam	1	99
Average six countries	21	79

- These results extracted from the regional report.
- Standard error is not mentioned in this table because the regional dataset is not released yet during report writing. These results were extracted directly from the regional report and the authors do the extra calculation. Here is the SEA-PLM 2019 regional report https://www.unicef.org/eap/media/7356/file/SEA-PLM%202019%20Main%20Regional%20Report.pdf

Table 1.4. Percentage of Grade 5 students who have met the minimum proficiency in reading for the end of primary by countries

	have not met the minimum proficiency level suggested by SDG 4.1.1b for the end of primary	have met the minimum proficiency level suggested by SDG 4.1.1b for the end of primary
Cambodia	89	11
Laos	98	2
Malaysia	42	58
Myanmar	89	11
Philippines	90	10
Vietnam	18	82
Average six countries	71	29

- These results extracted from the regional report.
- Standard error is not mentioned in this table because the regional dataset is not released yet during report writing. These results were extracted directly from the regional report and the authors do the extra calculation.

Table 1.5. National writing average by participating countries

Participating countries	Mean
Cambodia	285 (1.01)
Lao PDR	283 (1.04)
Malaysia	318 (0.88)
Myanmar	298 (0.89)
Philippines	288 (1.13)
Vietnam	327 (0.89)
Average six countries	300 (0.40)

- Standard errors appear in parentheses.

Table 1.6. Proportion of children at Grade 5 by writing band by participating country

	Band 1 and below	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8 and above
Cambodia	50 (1.53)	14 (0.57)	14 (0.66)	10 (0.68)	7 (0.54)	3 (0.47)	1 (0.25)	**1 (0.18)**
Laos PDR	52 (1.56)	11 (0.87)	12 (0.82)	11 (0.83)	8 (0.73)	4 (0.41)	1 (0.25)	1 (0.34)
Malaysia	7 (0.84)	5 (0.61)	11 (0.87)	19 (1.05)	26 (1.08)	20 (1.11)	7 (0.69)	4 (0.60)
Myanmar	25 (1.74)	14 (0.91)	21 (1.31)	21 (1.07)	13 (0.84)	4 (0.41)	1 (0.23)	**0 (0.13)**
Philippines	45 (1.71)	12 (0.64)	15 (0.74)	12 (0.72)	9 (0.66)	4 (0.46)	1 (0.23)	1 (0.22)
Vietnam	4 (0.63)	4 (0.41)	8 (0.62)	13 (0.67)	20 (1.13)	20 (1.01)	12 (0.67)	20 (1.12)
Average six countries	30 (0.57)	10 (0.28)	14 (0.35)	14 (0.35)	14 (0.35)	9 (0.29)	4 (0.18)	5 (0.23)

- Standard errors appear in parentheses.
- In bold - results based on fewer than 30 students and/or 5 schools should be interpreted with caution. Because results are rounded to the nearest whole number some totals may appear inconsistent.

Table 1.7. National mathematics average by participating countries

Participating countries	Mean
Cambodia	289 (0.82)
Lao PDR	279 (0.82)
Malaysia	315 (1.08)
Myanmar	288 (0.61)
Philippines	288 (0.84)
Vietnam	341 (1.04)
Average six countries	300 (0.36)

- Standard errors appear in parentheses.

Table 1.8. Proportion of children at Grade 5 by mathematics band by participating country

	Band 2 and below	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8	Band 9 and above
Cambodia	16 (1.17)	20 (0.89)	25 (0.83)	21 (0.93)	12 (0.75)	5 (0.60)	1 (0.35)	**0 (0.13)**
Laos PDR	33 (1.64)	24 (1.02)	21 (0.93)	13 (0.93)	6 (0.54)	2 (0.40)	**0 (0.16)**	0 (0.03)
Malaysia	3 (0.48)	5 (0.70)	10 (0.94)	18 (1.21)	24 (1.17)	21 (1.18)	13 (1.10)	6 (0.84)
Myanmar	14 (1.02)	24 (1.08)	29 (1.10)	22 (0.91)	9 (0.70)	3 (0.35)	**0 (0.14)**	**0 (0.03)**
Philippines	18 (1.39)	23 (0.99)	24 (1.01)	18 (0.97)	11 (0.80)	5 (0.56)	1 (0.34)	**0 (0.9)**
Vietnam	**0 (0.18)**	1 (0.25)	2 (0.40)	5 (0.66)	11 (0.88)	17 (1.16)	21 (1.09)	42 (1.69)
Average six countries	14 (0.45)	16 (0.35)	19 (0.37)	16 (0.39)	12 (0.34)	9 (0.32)	6 (0.27)	8 (0.32)

- Standard errors appear in parentheses.
- In bold - results based on fewer than 30 students and/or 5 schools should be interpreted with caution. Because results are rounded to the nearest whole number some totals may appear inconsistent.

Table 1.9. Percentage of Grade 5 students who have met the minimum proficiency in mathematics for the end of lower primary by countries

	have not met the minimum proficiency level suggested by SDG 4.1.1a for the end of lower primary	**have met the minimum proficiency level suggested by SDG 4.1.1a for the end of lower primary**
Cambodia	30	70
Laos	2	98
Malaysia	41	59
Myanmar	37	63
Philippines	8	92
Vietnam	36	64
SEA-PLM (Average)	58	42

- These results extracted from the regional report.
- Standard error is not mentioned in this table because the regional dataset is not released yet during report writing. These results were extracted directly from the regional report and the authors do the extra calculation.

Table 1.10. Percentage of Grade 5 students who have met the minimum proficiency in mathematics for the end of primary by countries

	have not met the minimum proficiency level suggested by SDG 4.1.1b for the end of primary	**have met the minimum proficiency level suggested by SDG 4.1.1b for the end of primary**
Cambodia	65	35
Laos	9	91
Malaysia	83	17
Myanmar	88	12
Philippines	36	64
Vietnam	82	18
Average six countries	92	8

- These results extracted from the regional report.
- Standard error is not mentioned in this table because the regional dataset is not released yet during report writing. These results were extracted directly from the regional report and the authors do the extra calculation.

Annex 2. Chapter 3

Table 2.1. Percentage of students by gender

Gender	Percentage of students
Boys	48.7 (0.8)
Girls	51.3 (0.8)

- Standard errors appear in parentheses.

Table 2.2. Percentage of students by the language spoken at home

Language spoken at home	Percentage of students
Language at home is another language	6.0 (0.6)
Language at home is the same as the language of assessment for that student	94.0 (0.6)

- Standard errors appear in parentheses.

Table 2.3. Percentage of students by the language category

Language spoken at home	Percentage of students
Khmer	95.8 (0.5)
English	1.7 (0.2)
French	0.6 (0.2)
Chinese	0.6 (0.1)
Other language	1.2 (0.3)

- Standard errors appear in parentheses.

Table 2.4. Percentage of students by number of sibling

Siblings (brothers and sisters)	Percentage of students
None	8.1 (0.5)
One	25.9 (1.0)
Two	27.9 (0.8)
Three	18.3 (0.7)
Four	11.5 (0.6)
More than four	8.4 (0.6)

- Standard errors appear in parentheses.

Table 2.5. Percentage of students by age

Age's category	Percentage of students
Under age	11.6 (1.0)
Normative age	12.2 (0.5)
Over age	76.2 (1.1)

- Standard errors appear in parentheses.

Table 2.6. Percentage of students by the age that they began preschool

Age	Percentage of students
5 years old or younger	15.3 (1.1)
6 years old	65.2 (1.6)
7 years old	13.6 (0.7)
8 years old or older	5.8 (0.6)

- Standard errors appear in parentheses.

Table 2.7. Percentage of students by preschool education

Preschool education	Percentage of students
Yes, for 2 years or more	23.7 (1.3)
Yes, for 1 year	34.7 (1.7)
No	41.6 (2.0)

- Standard errors appear in parentheses.

Table 2.8. Percentage of students repeated grade 1

Percentage of students	All students	Gender	
		Girls	Boys
Repeated grade 1	33.0 (1.2)	30.7 (1.6)	35.4 (1.5)
Did not repeat grade 1	67.0 (1.2)	69.3 (1.6)	64.6 (1.5)

- Standard errors appear in parentheses.

Table 2.9. Percentage of students whose parents expected about their highest level of education in the future

Education level	Percentage of students
Primary	2.3 (0.3)
Lower secondary	7.8 (0.7)
Upper secondary	43.2 (1.5)
Vocational Training or Post-secondary education	8.8 (0.7)
Higher Education or higher	37.8 (1.8)

- Standard errors appear in parentheses.

Table 2.10. Percentage of students who agreed or disagree with the following statements related to student's attitudes about school

	Strongly agree	Agree	Disagree	Strongly agree
I like being at school.	61.4 (1.1)	32.7 (1.0)	2.9 (0.2)	3.0 (0.3)
I feel safe when I am at school.	36.0 (1.0)	52.1 (1.0)	8.6 (0.5)	3.3 (0.3)
I feel like I belong to this school.	27.9 (0.9)	49.7 (1.0)	17.6 (0.8)	4.8 (0.4)
I have learnt things at school that are useful.	43.9 (1.1)	45.1 (1.1)	6.7 (0.5)	4.3 (0.4)
I make friends easily at school.	31.4 (0.9)	51.1 (1.0)	12.1 (0.6)	5.5 (0.4)

- Standard errors appear in parentheses.

Table 2.11. Percentage of students by ability to perform early language and mathematical tasks prior to primary education

	Yes	No
Recognize most of the letters of the alphabet	65.8 (2.1)	34.2 (2.1)
Read some words	79.7 (1.8)	20.3 (1.8)
Write letters of the alphabet	88.2 (1.3)	11.8 (1.3)
Write some words	74.8 (1.8)	25.2 (1.8)
Count by himself / herself up to 10	96.3 (0.6)	3.7 (0.6)
Recognize different shapes (e.g., square, triangle, circle)	52.6 (2.2)	47.4 (2.2)
Write the numbers from 1–20	80.5 (1.7)	19.5 (1.7)
Recognize colours	90.1 (1.0)	9.9 (1.0)
Recognize his / her name	98.0 (0.3)	2.0 (0.3)
Write his / her name	71.1 (1.9)	28.9 (1.9)
Do simple addition	85.3 (1.5)	14.7 (1.5)

- Standard errors appear in parentheses.

Table 2.12. Percentage of students by the parents or guardian's responses

Person who completed the parent questionnaire	Percentage of students
Father/male guardian	37.0 (1.3)
Mother/Female guardian	44.8 (1.1)
Grandparents	11.6 (0.9)
Others	6.6 (0.6)

- Standard errors appear in parentheses.

Table 2.13. Percentage of students by parents' highest education level

Parents' highest education level	Percentage of students
Higher education or higher (Bachelor degree, Master degree, and Doctoral degree)	5.2 (0.6)
Vocational training or post-secondary education	1.6 (0.2)
Upper secondary education (Grade 10 to 12)	14.9 (0.7)
Lower secondary education (Grade 7 to 9)	28.8 (1.0)
Primary education (grade 1 to 6)	43.3 (1.3)
Religious education or did not go to school	5.4 (0.6)
No guardian	0.8 (0.2)

- Standard errors appear in parentheses.

Table 2.14. Percentage of students by highest parental accupation

Highest parental job	Percentage of students
Professional and Manager	5.3 (0.5)
Soldier, policeman	3.1 (0.3)
Small business ower, clerk	13.9 (1.2)
Skilled worker, labour, domestic help	71.1 (1.5)
Other	5.9 (0.6)
Not appliable	0.8 (0.2)

- Standard errors appear in parentheses.

Table 2.15. Percentage of students by following things happen at home

	Never or hardly ever	Monthly (at least once a month)	Weekly (at least once a week)	Daily or almost daily
I have to do homework for school.	22.5 (0.9)	21.3 (0.8)	16.5 (0.8)	39.6 (1.4)
My parents/guardians ask me what I am learning in school.	13.9 (0.8)	24.8 (0.9)	23.5 (0.8)	37.9 (1.1)
I talk about my schoolwork with my parents.	16.8 (0.7)	22.6 (0.7)	28.2 (0.8)	32.5 (1.1)
My parents/guardians check if I do my homework.	14.5 (0.7)	21.3 (0.8)	23.3 (0.7)	40.9 (1.1)
My parents/guardians help me with my homework	28.1 (1.0)	22.5 (0.7)	24.2 (0.7)	25.2 (0.9)
My parents motivate me to succeed in school.	12.8 (0.7)	18.9 (0.7)	17.7 (0.7)	50.7 (1.0)

- Standard errors appear in parentheses.

Table 2.16. Average reading, writing and mathematics scores by gender

Domain	Girls	Boys	Score difference (girls-boys)
Reading	293 (0.9)	287 (0.9)	**7** (0.3)
Writing	291 (1.1)	279 (1.1)	**12** (0.2)
Mathematics	291 (0.9)	288 (0.8)	**3** (0.4)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.17. Average reading, mathematics and writing scores by age of student

Domain	Under age	Normative age	Over age	Score difference (under age-normative age)	Score difference (under age-over age)	Score difference (normative age -over age)
Reading	292 (1.8)	294 (1.4)	289 (0.8)	-2 (1.9)	3 (1.7)	**4** (1.2)
Writing	287 (2.0)	288 (1.4)	284 (1.1)	-1 (2.0)	3 (1.9)	**4** (1.3)
Mathematics	290 (1.5)	292 (1.4)	289 (0.8)	-2 (1.7)	1 (1.4)	**3** (1.2)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.18. Average reading, writing and mathematics scores by whether the language of instruction is spoken at home

Domain	Language at home is another language	Language at home is the same as the language of assessment for that student	Score difference (another language -the same as the language of assessment)
Reading	280 (2.5)	291 (0.8)	**-11** (2.3)
Writing	272 (3.5)	286 (0.9)	**-14** (3.2)
Mathematics	279 (2.4)	290 (0.8)	**-11** (2.2)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.19. Percentage of students by number of meals which students had on a normal school day

Number of meals	Percentage of students
No meal	0.9 (0.2)
One meal	16.1 (1.2)
Two meals	14.3 (0.9)
Three meals	68.6 (1.6)

- () Standard errors appear in parentheses.

Table 2.20. Average reading, mathematics and writing scores by number of meals

Domain	One meal	Two meals	Three meals	Score difference (one meal – two meals)	Score difference (one meal – three meals)	Score difference (two meals – three meals)
Reading	285 (1.6)	287 (1.4)	292 (0.7)	-2 (1.5)	**-7** (1.4)	**-5** (1.2)
Writing	279 (1.9)	281 (1.6)	288 (0.9)	-3 (1.8)	**-9** (1.6)	**-6** (1.4)
Mathematics	284 (1.4)	286 (1.4)	292 (0.8)	**-3** (1.4)	**-8** (1.3)	**-5** (1.2)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.21. Average reading, mathematics and writing scores by preschool education

Domain	Attending preschool for 2 years or more	Attending preschool for 1 year	Did not attend preschool	Score difference (Attending preschool for 2 years or more - preschool for 1 year)	Score difference (Attending preschool for 2 years or more - did not attend preschool)	Score difference (Attending preschool for 1 year - did not attend preschool)
Reading	290 (1.3)	293 (1.3)	289 (0.9)	-3 (1.5)	1 (1.3)	**4** (1.3)
Writing	286 (1.5)	288 (1.5)	283 (1.1)	-2 (1.8)	2 (1.6)	**5** (1.5)
Mathematics	289 (1.2)	293 (1.4)	288 (0.8)	**-4** (1.6)	1 (1.1)	**5** (1.4)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.22. Average reading, mathematics and writing scores by grade repetition

Domain	Repeated grade 1	Did not repeat grade 1	Score difference (repeated grade 1 - did not repeat grade 1)
Reading	285 (1.0)	294 (0.8)	**-9** (0.9)
Writing	279 (1.3)	288 (1.0)	**-9** (1.2)
Mathematics	284 (1.0)	292 (0.9)	**-8** (0.9)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.23. Average reading, mathematics and writing scores by positive attitudes towards school

(On average, Grade 5 students in Cambodia reported lower levels of postitive attitude towards school with mean of 48.)

Domain	Student's attitude towards school below the mean	Student's attitude towards school above the mean	Score difference (below the mean-above the mean)
Reading	288 (0.9)	295 (0.9)	**-6** (0.9)
Writing	282 (1.1)	290 (1.1)	**-8** (1.0)
Mathematics	288 (0.9)	294 (0.9)	**-6** (0.9)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.24. Average reading, mathematics and writing scores by positive attitudes towards mathematics

(On average, Grade 5 students in Cambodia reported lower levels of postitive attitude towards mathematics with mean of 48.)

Domain	Student's attitude towards Mathematics below the mean	Student's attitude towards Mathematics above the mean	Score difference (below mean-above mean)
Reading	289 (1.0)	295 (0.8)	**-6** (0.9)
Writing	283 (1.2)	290 (1.0)	**-7** (1.2)
Mathematics	288 (1.0)	293 (0.8)	**-5** (0.9)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.25. Average reading, mathematics and writing scores by parents' education

Domain	Higher Education or higher	Vocational Training or Post-secondary education	Upper secondary Education	Lower Secondary Education	Primary Education	Religious education or Did not go to school	Score difference (Higher Education or higher - Religious education or Did not go to school)
Reading	311 (1.6)	293 (3.3)	296 (1.2)	292 (1.1)	285 (0.9)	284 (1.8)	**27** (2.5)
Writing	303 (1.6)	288 (3.6)	290 (1.4)	287 (1.3)	280 (1.2)	279 (2.4)	**24** (2.9)
Mathematics	309 (1.8)	292 (2.8)	296 (1.2)	291 (1.2)	285 (0.9)	281 (1.6)	**28** (2.5)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.26. Average reading, mathematics and writing scores by resources in home

Domain	Bottom quarter of resource in home	Second quarter of resource in home	Third quarter of resource in home	Top quarter of resource in home	Score difference (bottom quarter - top quarter)
Reading	282 (1.1)	287 (0.9)	290 (0.9)	302 (1.4)	**-20** (1.7)
Writing	278 (1.4)	281 (1.2)	285 (1.2)	295 (1.5)	**-17** (1.9)
Mathematics	282 (1.0)	286 (0.8)	289 (0.9)	301 (1.5)	**-19** (1.8)

- Significant differences (p<0.05) indicated in bold.. There are also significant differences among each quarter.
- Standard errors appear in parentheses.

Table 2.27. Average reading, mathematics and writing scores by socio-economic status (SES)

Domain	Bottom quarter of SES	Second quarter of SES	Third quarter of SES	Top quarter of SES	Score difference (bottom quarter - top quarter)
Reading	283 (1.0)	286 (0.9)	291 (1.1)	302 (1.3)	**-19** (1.5)
Writing	278 (1.3)	282 (1.3)	286 (1.3)	295 (1.4)	**-17** (1.7)
Mathematics	282 (1.0)	286 (0.9)	290 (1.1)	301 (1.3)	**-19** (1.6)

- Significant differences (p<0.05) indicated in bold.. There are also significant differences among each quarter.
- Standard errors appear in parentheses.

Table 2.28. Average reading, mathematics and writing scores by parental engagement towards schooling

On average, Grade 5 students in Cambodia reported their parents had engaged average with their schools with mean of 50 and standard deviation 10.)

Domain	Parental engagement towards schooling below the mean	Parental engagement towards schooling above the mean	Score difference (below the mean - above the mean)
Reading	287 (1.0)	296 (0.8)	**-10** (0.9)
Writing	280 (1.2)	292 (1.0)	**-12** (1.0)
Mathematics	286 (1.0)	295 (0.8)	**-9** (0.9)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.29. Percentage of students by school principals's gender

Gender	Percentage of students
Male	82.0 (2.6)
Femal	18.0 (2.6)

- Standard errors appear in parentheses.

Table 2.30. Percentage of students by the age of school principals

Age interval	Percentage of students
24 years or younger	0.3 (0.3)
25-34 years	11.0 (2.3)
35-44 years	28.2 (3.5)
45-54 years	51.7 (3.6)
55-64 years	7.3 (2.0)
65 years or older	1.5 (1.1)

- Standard errors appear in parentheses.

Table 2.31. Percentage of students by the school principals experience in number of years

Number of years	Percentage of students
2 years or less	19.4 (3.2)
3-5 years	24.3 (3.2)
6-10 years	29.4 (3.6)
11-20 years	22.0 (3.3)
21-30 years	4.1 (1.5)
31 years or more	0.9 (0.0)

- Standard errors appear in parentheses.

Table 2.32. Percentage of students by school principals' highest educational level

Educational level	Percentage of students
Lower secondary	14.5 (2.3)
Upper secondary	38.9 (3.6)
Vocational Training or Post-secondary education	8.2 (2.2)
Higher Education or higher	38.3 (4.0)

- Standard errors appear in parentheses.

Table 2.33. Percentage of students attending school by school size

School size	Percentage of students
Less than 200 children	15.3 (1.8)
200-499 children	40.4 (2.8)
500-999 children	29.1 (2.9)
1000 children and over	15.1 (2.3)

- Standard errors appear in parentheses.

Table 2.34. Percentage of students attending school in urban and rural region by school size

Region	School size	Percentage of students
Urban	Less than 200 children	4.9 (3.1)
	200-499 children	21.4 (6.2)
	500-999 children	29.6 (5.6)
	1000 children and over	44.1 (7.5)
Rural	Less than 200 children	18.3 (2.1)
	200-499 children	45.8 (3.0)
	500-999 children	29.0 (3.4)
	1000 children and over	7.0 (1.9)

- Standard errors appear in parentheses.

Table 2.35. Student-teacher ratio by region and by geographical zone

Types of region and graphical zone		Student-teacher ratio
All sampled schools		43 (1.4)
Regions	schools in Urban	41 (4.1)
	schools in Rural	44 (1.5)
Geographical zones	schools in Plains	44 (1.6)
	schools in Tonlesap	43 (2.8)
	schools in Plateau	45 (4.9)
	schools in Coastal	36 (6.5)

- Standard errors appear in parentheses.

Table 2.36. Percentage of students by Khmer language and Mathematics textbooks availability

Number of textbooks for Grade 5 mathematics and Khmer classes	Mathematics	Khmer Language
No textbooks	1.6 (1.0)	2.9 (1.3)
One per student	96.4 (1.5)	93.8 (2.0)
Two students sharing	2.1 (1.2)	3.3 (1.5)
More than two student sharing	0.0 (0.0)	0.0 (0.0)

- Standard errors appear in parentheses.

Table 2.37. Percentage of students by the availability of school library

Availability of school library	Percentage of students
Yes	74.6 (2.8)
No	25.4 (2.8)

- Standard errors appear in parentheses.

Table 2.38. Percentage of students attending schools which has the following features in the school library

Features in the school library	Yes	No
Newspapers	18.2 (3.1)	81.8 (3.1)
Magazines	65.3 (4.4)	34.7 4.4)
Reading room for students	93.0 (2.4)	7.0 (2.4)
Issuing of books to students	99.1 (0.9)	0.9 (0.9)
Issuing of books to teachers	73.6 (4.1)	26.4 (4.1)
A librarian	87.1 (2.8)	12.9 (2.8)
Reference books	71.1 (4.2)	28.9 (4.2)
Computer available for use of students	12.5 (3.1)	87.5 (3.1)
Disability access	10.3 (2.7)	89.7 (2.7)

- Standard errors appear in parentheses.

Table 2.39. Percentage of students attending school by daily lesson hours

Number of hours	Percentage of students
3 hours or less	5.2 (2.0)
4 hours	87.9 (2.8)
5 hours	5.6 (1.9)
6 hours	0.0 (0.0)
7 hours	1.2 (0.9)
8 hours or more	0.0 (0.0)

- Standard errors appear in parentheses.

Table 2.40. Percentage of students by issues occurring at school among student

School's capacity to provide instruction was moderately or largely hindered by the following	Never or hardly ever	Monthly (at least once a month)	Weekly (at least once a week)	Daily or almost daily
Coming late for class	44.7 (3.7)	41.4 (3.5)	9.5 (2.2)	4.4 (1.9)
Truancy	77.3 (3.0)	18.1 (2.8)	4.2 (1.5)	0.4 (0.0)
Classroom disturbance	63.1 (3.9)	23.5 (3.1)	12.9 (3.0)	0.6 (0.0)
Cheating	58.3 (3.8)	26.9 (3.6)	11.9 (2.4)	3.0 (1.4)
Vandalism	96.5 (1.4)	3.5 (1.4)	0.0 (0.0)	0.0 (0.0)
Aggression between students from different ethnic groups	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Aggression between students due to religious differences	100.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Bullying	97.6 (1.1)	2.1 (1.1)	0.3 (0.0)	0.0 (0.0)
Violence	95.4 (1.5)	3.6 (1.3)	1.0 (0.7)	0.0 (0.0)
Offensive behaviours towards girls	97.1 (1.3)	2.9 (1.3)	0.0 (0.0)	0.0 (0.0)
Offensive behaviours towards students with disabilities	98.5 (0.9)	1.5 (0.9)	0.0 (0.0)	0.0 (0.0)
Offensive behaviours towards teachers	97.1 (1.2)	2.9 (1.2)	0.0 (0.0)	0.0 (0.0)

- Standard errors appear in parentheses.

Table 2.41. Percentage of students attending a school where the principal reported that their school's capacity to provide instruction was hindered by the following

Instruction hindered by any of the following issues	To a large extent	To a moderate extent	To a little extent	Not at all
Shortage or inadequacy of classrooms	18.9 (2.6)	29.0 (3.4)	20.7 (3.1)	31.3 (3.6)
Shortage or inadequacy of toilets	9.7 (2.3)	32.9 (3.7)	30.2 (3.3)	27.2 (3.5)
Shortage or inadequacy of instructional materials (e.g. textbooks)	7.3 (1.8)	27.1 (3.7)	45.4 (3.8)	20.2 (2.9)
Shortage or inadequacy of computers for instruction	43.4 (3.9)	20.8 (3.3)	13.6 (2.9)	22.3 (3.4)
A lack of qualified teachers	15.2 (2.5)	25.9 93.4)	34.2 (3.6)	24.7 (3.7)

- Standard errors appear in parentheses.

Table 2.42. Average reading, mathematics and writing scores by school management (public and private schools)

Domain	Public school	Private school	Score difference (public school- private school)
Reading	288 (0.7)	313 (2.1)	**-25** (2.2)
Writing	283 (0.9)	306 (2.3)	**-23** (2.4)
Mathematics	287 (0.7)	314 (2.3)	**-27** (2.4)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.43. Average reading, mathematics and writing scores by school size

Domain	Bottom quarter of school size	Second quarter of school size	Third quarter of school size	Top quarter of school size	Score difference (bottom quarter - top quarter)
Reading	285 (1.3)	285 (1.6)	293 (1.2)	299 (2.4)	**-14** (2.8)
Writing	280 (1.4)	280 (2.2)	288 (1.6)	293 (2.7)	**-14** (3.2)
Mathematics	285 (1.2)	285 (1.6)	292 (1.2)	298 (2.6)	**-13** (3.1)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.44. Average reading, mathematics and writing scores by child-friendly school level

Domain	School in advance level	School in medium level	School in basic level	Score difference (advance school - medium school)	Score difference (advance school - basic school)	Score difference (medium school - basic school)
Reading	296 (1.6)	287 (1.0)	285 (1.9)	**9** (1.9)	**12** (2.5)	2 (2.1)
Writing	291 (1.8)	282 (1.3)	279 (2.7)	**9** (2.3)	**13** (3.2)	3 (3.0)
Mathematics	296 (1.6)	286 (1.0)	284 (1.8)	**9** (1.9)	**11** (2.4)	2 (2.0)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.45. Average reading, mathematics and writing scores by resource in local area

Domain	Bottom quarter of resource in local area	Second quarter of resource in local area	Third quarter of resource in local area	Top quarter of resource in local area	Score difference (bottom quarter - top quarter)
Reading	285 (1.5)	286 (1.4)	290 (1.3)	299 (2.2)	**-14** (2.7)
Writing	279 (1.8)	280 (1.7)	286 (1.8)	294 (2.3)	**-15** (3.0)
Mathematics	284 (1.4)	285 (1.3)	289 (1.3)	299 (2.4)	**-15** (2.8)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 2.46. Average reading, mathematics and writing scores by regions (urban and rural schools)

Domain	Urban school	Rural school	Score difference (urban school-rural school)
Reading	302 (1.9)	287 (0.8)	**15** (2.0)
Writing	295 (2.0)	282 (1.1)	**13** (2.3)
Mathematics	301 (2.1)	286 (0.7)	**15** (2.2)

- Significant differences ($p<0.05$) indicated in bold.
- Standard errors appear in parentheses.

Table 2.47. Average reading, mathematics and writing scores by geographical zones

Domain	Schools in Plains	Schools in Tonlesap	Schools in Plateau	Schools in Coastal
Reading	291 (1.2)	292 (1.6)	286 (1.8)	284 (2.0)
Writing	286 (1.5)	287 (1.9)	280 (2.1)	276 (2.9)
Mathematics	290 (1.1)	291 (1.7)	285 (1.6)	286 (2.4)

- Standard errors appear in parentheses.

Table 2.48. Difference average reading, mathematics and writing scores by geographical zones

Domain	Score difference (Schools in Plains - school in Tonlesap)	Score difference (Schools in Plains - school in Plateau)	Score difference (Schools in Plains - school in Coastal)	Score difference (Schools in Tonlesap -school in Plateau)	Score difference (Schools in Tonlesap -school in Coastal)	Score difference (Schools in Plateau - school in Coastal)
Reading	-1 (1.9)	**5.3** (2.1)	**7** (2.3)	**6** (2.4)	**8** (2.5)	2 (2.5)
Writing	-1 (2.4)	**5.3** (2.5)	**9** (3.3)	**7** (2.8)	**11** (3.4)	4 (3.5)
Mathematics	-1 (2.0)	**5.9** (2.0)	4 (2.7)	**6** (2.3)	5 (2.9)	-1 (3.0)

- Significant differences ($p<0.05$) indicated in bold.
- Standard errors appear in parentheses.

Table 2.49. Teachers' gender

Gender	Percentage of teachers
Male	55.7 (39.8)
Female	43.0 (44.9)

- Standard errors appear in parentheses.

Table 2.50. Percentage of teachers in each age category

Age category	Percentage of teachers
24 years or younger	17.1 (40.3)
25-34 years	33.4 (44.9)
35-44 years	29.8 (30.8)
45-54 years	17.7 (51.5)
55 years or older	2.1 (2.9)

- Standard errors appear in parentheses.

Table 2.51. Percentage of teachers' in each education level

Education Level	Percentage of teachers
Lower secondary or below	6.2 (2.6)
Upper secondary	52.1 (18.1)
Vocational Training or Post-secondary education	4.6 (5.5)
Bachelor degree	35.9 (8.0)
Master degree	1.2 (7.1)

- Standard errors appear in parentheses.

Table 2.52. Percentage of teachers who reported on students' behavior

	Most of them or all or nearly
are well behaved on entering and leaving the school premises?	95.2 (3.3)
have a good relationship with the school teachers and staff?	92.6 (20.6)
show care for school facilities and equipment?	87.7 (14.0)
speak about the school in positive terms?	93.4 (8.0)
are well behaved during school break?	94.6 (1.0)
adhere to school rules?	95.1 (12.2)

- Standard errors appear in parentheses.

Table 2.53. Percentage of teachers who reported on the following issues affect moderate or large the learning of your Grade 5 students

	Moderate or a large extent
Students' lack of basic knowledge or skills	82.2 (10.7)
Students' lack of interest	65.7 (15.8)
Students' poor health	47.4 (34.4) (n.s)
Disruptive students in class	48.1 (28.9) (n.s)
Students' absenteeism	56.6 (19.9)
Students being hungry in class	44.5 (42.3) (n.s)
Students' lack of sleep	46.6 (30.7)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Table 2.54. Percentage of students who reported teacher classroom-related issues as occurring 'sometimes' or 'often'

	Sometimes or often
My teacher comes late for class.	50.8 (1.2)
My teacher has difficulty to get students to quiet down.	59.4 (1.3)
My teacher is absent.	50.8 (1.2)

- Standard errors appear in parentheses.

Table 2.55. Percentage of teachers who attended any teacher training on the following topics

	Yes during pre-service training only	Yes during in-service training only	Yes during both pre-service and in-service training only	No
Mathematics	20.9 (11.0) (n.s)	13.2 (4.0)	47.8 (29.1) (n.s)	18.1 (36.1) (n.s)
Reading in Khmer	23.3 (8.4)	15.1 (7.2)	44.5 (44.2) (n.s)	17.1 (28.6) (n.s)
Writing in Khmer	20.9 (2.7)	15.1 (3.5)	43.4 (49.4) (n.s)	20.6 (43.2) (n.s)
Social studies	17.0 (2.1)	15.4 (11.6) (n.s)	45.3 (51.4) (n.s)	22.3 (37.7) (n.s)
Classroom management	22.6 (15.5) (n.s)	15.9 (12.5) (n.s)	45.3 (53.6) (n.s)	16.1 (25.5) (n.s)
Student assessment	21.0 (21.0) (n.s)	12.2 (6.6) (n.s)	40.3 (79.0) (n.s)	26.4 (51.4) (n.s)
Information and communications technology	7.5 (25.8) (n.s)	4.1 (1.0)	13.6 (10.4) (n.s)	74.8 (37.2)
General teaching methods/pedagogy	19.6 (17.7) (n.s)	15.8 (15.5) (n.s)	53.1 (55.8) (n.s)	11.5 (22.6) (n.s)
Inclusive education or special needs education (including the needs of children with disabilities)	14.1 (7.1)	4.8 (6.6) (n.s)	16.7 (15.5) (n.s)	64.4 (29.1)
Differentiated instruction	19.6 (3.5)	11.2 (5.5)	30.7 (57.3) (n.s)	38.5 (48.4) (n.s)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Table 2.56. Percentage of teachers who feel quite confident or very confident in using the following teaching methods and approaches

	Quite confident or very confident
Group work	94.8 (7.1)
Discovery learning	78.4 (5.9)
Problem solving	83.4 (30.1)
Role playing	73.1 (44.5) (n.s)
Research work	82.0 (22.6)
Lecturing	61.5 (27.1)
Laboratory activities	65.6 (55.6) (n.s)
Collaborative teaching	89.6 (7.4)
ICT supported activities	43.9 (27.4) (n.s)
Multi-age teaching	63.4 (26.8)
Differentiated instruction	76.0 (10.6)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Table 2.57. Percentage of teachers who feel quite confident or very confident to do the following activities in teaching mathematics students in their Grade 5 class

	Quite confident or very confident
Answering students' questions about mathematics	94.9 (7.2)
Showing students a variety of strategies to answer questions	93.6 (11.8)
Providing challenging tasks for capable students	84.0 (16.9)
Providing remedial support for low achieving students	86.5 (10.9)
Adapting your teaching to engage students' interest	91.1 (12.0)
Helping students appreciate the value of learning mathematics	95.4 (2.8)
Showing students the connections between classroom mathematics and the real world	91.7 (24.8)

- Standard errors appear in parentheses.

Table 2.58. Percentage of teachers who place some emphasis or strongly emphasis on the teaching the following aspects of reading with their Grade 5 class

	Some emphasis or strongly emphasis
Decoding sounds and words	95.3 (10.0)
Skimming or scanning strategies	98.3 (5.0)
Fluency (reading aloud without error)	98.6 (1.7)
Reading aloud with expression	95.3 (3.5)

- Standard errors appear in parentheses.

Table 2.59. Frequency with which students complete the following reading activities in class

	Never or hardly ever	Monthly (at least once a month)	Weekly (at least once a week)	Daily or almost daily
Reading aloud to the teacher	1.6 (31.8) (n.s)	5.2 (5.6) (n.s)	17.6 (6.6)	75.6 (19.5)
Repeating aloud after the teacher	8.3 (30.3) (n.s)	9.5 (0.3)	30.8 (6.2)	51.5 (36.7) (n.s)
Reading silently on their own	2.1 (3.5) (n.s)	2.2 (6.0) (n.s)	16.2 (11.0) (n.s)	79.6 (8.6)
Reading books of their own choice	6.2 (5.9) (n.s)	10.4 (20.4)(n.s)	37.9 (19.1)	45.5 (45.3) (n.s)
Taking books home to read	6.5 (15.2) (n.s)	5.1 (13.7) (n.s)	14.9 (4.2)	73.5 (33.1)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Table 2.60. Frequency with which students complete the following reading comprehension activities in their Grade 5 class

	Never or hardly ever	Monthly (at least once a month)	Weekly (at least once a week)	Daily or almost daily
Summarising what has been read	3.8 (4.1) (n.s)	13.3 (23.6) (n.s)	36.1 (17.1)	46.8 (44.8) (n.s)
Retrieving information from texts	3.2 (2.0) (n.s)	12.3 (23.1) (n.s)	32.4 (22.2) (n.s)	52.1 (43.3) (n.s)
Identifying the main idea within texts	8.8 (16.7) (n.s)	27.8 (14.6) (n.s)	63.4 (31.2)	0.0 (0.0)
Providing definitions of unfamiliar words in texts	0.4 (0.4) (n.s)	1.4 (1.9) (n.s)	23.7 (5.3)	74.5 (7.5)
Evaluating the ideas in texts	1.7 (1.9) (n.s)	6.4 (4.8) (n.s)	33.5 (21.3) (n.s)	58.4 (27.9)
Analyzing the structure and form of texts	11.0 (2.1)	12.4 (8.4) (n.s)	42.4 (12.1)	34.2 (18.4) (n.s)
Evaluating mood and tone of texts	7.6 (10.5) (n.s)	9.5 (19.9) (n.s)	38.4 (4.7)	44.5 (14.0)
Reflecting on how texts relate to the students'own world	1.4 (4.2) (n.s)	8.3 (17.2) (n.s)	25.3 (19.8) (n.s)	65.1 (32.8)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Table 2.61. Frequency with which students complete the following mathematics activities in their Grade 5 class

	Never or hardly ever	Monthly (at least once a month)	Weekly (at least once a week)	Daily or almost daily
Listening to you to explain mathematics content to the class	0.4 (0.8) (n.s)	0.1 (1.3) (n.s)	1.6 (5.4) (n.s)	97.9 (4.9)
Memorising rules, procedures, and facts	0.3 (0.5) (n.s)	2.8 (10.8) (n.s)	16.8 (21.6) (n.s)	80.1 (32.9)
Answering mathematics questions in front of the whole class	5.8 (0.0)	24.1 (16.0) (n.s)	70.2 (20.3)	0.0 (36.3) (n.s)
Answering mathematics questions on paper (writing answers in a book or on worksheets)	2.6 (0.0)	14.8 (1.0)	82.5 (13.0)	0.0 (14.0) (n.s)
Answering mathematics questions in small groups (with their peers)	1.7 (0.3)	8.0 (10.8) (n.s)	35.3 (20.7) (n.s)	55.1 (31.8) (n.s)
Explaining their answers to mathematics questions	0.6 (2.7) (n.s)	3.8 (0.1)	20.6 (35.4) (n.s)	75.0 (38.2)
Relating what they are learning in mathematics to their daily lives	1.0 (4.6) (n.s)	6.5 (15.0) (n.s)	17.2 (19.9) (n.s)	75.3 (39.5) (n.s)
Taking a written test or quiz	1.5 (3.9) (n.s)	17.7 (14.5) (n.s)	45.2 (36.3) (n.s)	35.6 (46.8) (n.s)
Using computer-based mathematics learning resources	96.1 (23.9)	0.7 (9.5) (n.s)	1.4 (10.3) (n.s)	1.8 (4.0) (n.s)
Undertaking extended mathematics investigations	4.1 (2.7) (n.s)	19.9 (17.9) (n.s)	36.1 (34.5) (n.s)	39.8 (55.2) (n.s)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

Annex 3. Chapter 4

Table 3.1. Percentage of students who reported that they have learned some or a lot about the following topics at school

	Some or a lot
What is happening in countries near Cambodia	37.8 (1.2)
What is happening in the world	44.5 (1.3)
How things that happen in other countries affect Cambodia	41.8 (1.2)
Understanding people that are different	48.2 (1.2)
How to solve disagreements peacefully	51.8 (1.0)
Pollution in Cambodia	42.8 (1.3)
Pollution in places outside Cambodia	38.5 (1.2)
Loss of natural resources, for example water, energy and useable land	49.3 (1.1)
Climate change	64.6 (1.1)
How you can help to solve problems with your classmates	45.3 (1.1)
How to protect the environment	69.4 (1.1)

- Standard errors appear in parentheses.

Table 3.2. Percentage of students who reported that they are quite worried or very worried about the following issues

	Quite worried or very worried
Pollution in Cambodia	77.2 (1.0)
Pollution in places outside of Cambodia	59.3 (1.1)
Power shortages	70.5 (1.1)
Extinction of plants	75.7 (1.0)
Extinction of animals	75.1 (0.9)
Loss of natural resources	77.1 (0.9)
Water shortages	76.7 (1.0)
Climate change	74.6 (0.9)

- Standard errors appear in parentheses.

Table 3.3. Correlation between some student's concerns and student performance

Correlation between some student's concerns and student performance	Coefficient
Reading	0.35 (0.0)
Writing	0.26 (0.0)
Mathematics	0.32 (0.0)

- Standard errors appear in parentheses

Table 3.4. Percentage of students who agreed or strongly agreed with the following statements

	Agree or Strongly agree
I feel I belong to Cambodia.	41.6 (1.6)
I think of myself as Asian.	38.8 (1.5)
I feel connected to the rest of the world.	49.5 (1.3)
I feel I have a lot in common with other children in Cambodia.	80.7 (0.7)
I feel I have a lot in common with other children in Asia.	47.1 (1.4)
I feel I have a lot in common with children in the world outside Asia.	50.4 (1.3)

- Standard errors appear in parentheses.

Table 3.5. **Percen**tage of students who reported about the following topics that they have learned is quite important or very important

- Standard errors appear in parentheses.

	Quite important or very important
What is happening in countries near your own	75.1 (1.1)
What is happening in the world	79.6 (1.1)
How things that happen in other countries affect Cambodia	76.3 (0.9)
Understanding people that have a different ethnicity / race to you	52.2 (1.1)
How to solve disagreements with classmates peacefully	74.4 (0.8)
How to protect the environment	87.9 (0.7)
How you can help to solve problems in your own community	84.3 (0.8)
Other languages spoken in your country	73.0 (1.0)
Languages spoken in other countries	57.9 (1.2)

Table 3.6. Percentage of students who reported that they might do or will do the following activities

	Might do or will do
Tell someone who is littering to stop.	79.9 (0.8)
Stand up for a classmate who is being badly treated by other students.	75.7 (0.9)
Help other people in your community.	86.4 (0.6)
Encourage other people to help protect the environment.	86.0 (0.6)
Join a group to help protect the environment.	86.6 (0.7)

- Standard errors appear in parentheses.

Table 3.7. Percentage of students who reported that they quite likely or very likely participated in the following activities at school

	Quite likely and very likely
Vote for class leader	80.4 (0.8)
Become a candidate for class leader	70.6 (1.0)
Join a group of students to support an issue you agree with	78.6 (1.0)
Speak in an organized debate	45.7 (1.1)
Speak up in a classroom discussion about problems in the world	64.3 (1.0)

- Standard errors appear in parentheses.

Table 3.8. Scale score of global citizenship's outcomes

Global citizenship's outcomes	Scale score
Students' exposure to global citizenship issues at school	45.3 (0.2)
Students' concern for global issues	49.2 (0.3)
Students' identification as Asian	47.2 (0.3)
Students' attitudes towards learning about global citizenship-related issues	46.3 (0.2)
Students' expected civic behavior	49.0 (0.2)
Students' behavioral intentions associated with global citizenship	47.4 (0.2)

- Standard errors appear in parentheses.
- The regional mean of these scales is of 50 and the standard deviation of 10.

Table 3.9. Global citizenship's outcomes by socio-economic status

Global citizenship's outcomes	Girls	Boys	Score difference (girls – boys)
Students' exposure to global citizenship issues at school	44.9 (0.3)	45.7 (0.3)	**-0.7** (0.3)
Students' concern for global issues	50.0 (0.3)	48.2 (0.3)	**1.8** (0.3)
Students' identification as Asian	46.7 (0.3)	47.8 (0.3)	**-1.2** (0.3)
Students' attitudes towards learning about global citizenship-related issues	46.2 (0.2)	46.4 (0.3)	-0.3 (0.3)
Students' expected civic behavior	49.5 (0.3)	48.6 (0.3)	**0.9** (0.3)
Students' behavioral intentions associated with global citizenship	46.8 (0.3)	48.0 (0.3)	**-1.2** (0.3)

- Significant differences (p<0.05) indicated in bold.
- Standard errors appear in parentheses.

Table 3.10. Global citizenship's outcomes by socio-economic status (SES)

Global citizenship's outcomes	Bottom quarter of SES	Second quarter of SES	Third quarter of SES	Top quarter of SES	Score difference (bottom quarter - top quarter)
Students' exposure to global citizenship issues at school	45.0 (0.4)	45.0 (0.3)	45.2 (0.4)	46.0 (0.4)	-1.0 (0.5)
Students' concern for global issues	48.0 (0.3)	48.1 (0.3)	49.3 (0.4)	51.5 (0.4)	**-3.5** (0.5)
Students' identification as Asian	47.2 (0.4)	47.3 (0.4)	46.9 (0.4)	47.5 (0.5)	-0.3 (0.6)
Students' attitudes towards learning about global citizenship-related issues	45.7 (0.4)	45.8 (0.3)	46.3 (0.4)	47.6 (0.4)	**-1.9** (0.5)
Students' expected civic behavior	47.0 (0.3)	48.1 (0.3)	49.5 (0.3)	51.8 (0.4)	**-4.7** (0.5)
Students' behavioral intentions associated with global citizenship	46.7 (0.3)	47.3 (0.3)	47.4 (0.3)	48.2 (0.4)	**-1.5** (0.5)

- Significant differences ($p<0.05$) indicated in bold.
- Standard errors appear in parentheses.

Table 3.11. Percentage of teachers who perceived that each of the following content areas is quite important or very important for Grade 5 student to learn at school

	Quite important or very important
What is happening in countries near their own	79.9 (0.5)
What is happening in the world	76.2 (18.3)
How things that happen in other countries affect Cambodia	87.4 (15.2)
Understanding people that have a different ethnicity/race to them	76.9 (12.0)
How to solve disagreements with classmates peacefully	97.7 (1.3)
How to protect the environment	99.5 (2.5)
How they can help to solve problems in their own community	93.6 (16.1)
Other languages spoken in their country	88.1 (6.8)
Languages spoken in other countries	75.7 (18.6)

- Standard errors appear in parentheses.

Table 3.12. Percentage of teachers who perceived that each of the following skills, values and characteristics is quite important or very important for young people to develop

	Quite important or very important
Feeling connected to other people outside their family, community or country	95.92 (11.3)
Being interested in the world	88.51 (13.7)
Caring about the problems of people outside their community or country	78.04 (8.3)
Wanting to make the world a better place	87.37 (16.8)
Acting to make the world a better place	90.45 (17.5)
Encouraging others to act to make the world a better place	88.64 (25.2)
Thinking that all people should be treated equally	97.66 (7.1)
Willing to challenge injustice	99.48 (2.5)
Acting to address inequality	96.19 (11.0)
Accepting that people are different	87.75 (18.0)
Seeing how local problems have global consequences	84.92 (30.0)
Valuing traditional histories and cultures other than their own	36.18 (7.9)

- Standard errors appear in parentheses.

Table 3.13. Percentage of teachers who reported that pre-service teacher education program prepared them quite well or very well to teach them about the following contents

	Quite well or very well
Local current events	95.9 (8.6)
Global current events	78.6 (31.0)
Globalization	79.0 (35.1)
Children's rights	98.5 (7.1)
Environmental protection	97.3 (13.8)
Sustainable development	95.4 (13.8)
Respecting diversity	90.7 (12.5)
Conflict resolution	93.1 (2.5)
Inequality	87.4 (16.3)
Injustice	81.0 (15.6)
Peace and conflict	86.7 (5.7)
Taking action to challenge inequality	88.9 (16.6)

- Standard errors appear in parentheses.

Table 3.14. Percentage of teachers who are quite confident or very confident to teach Grade 5 students at their school about following contents

	Quite confident or very confident
Local current events	93.9 (7.4)
Global current events	66.5 (49.2) (n.s)
Globalization	68.5 (36.1) (n.s)
Children's rights	98.4 (0.1)
Environmental protection	96.9 (4.1)
Sustainable development	87.3 (20.4)
Respecting diversity	91.1 (11.4)
Conflict resolution	91.9 (0.7)
Inequality	86.1 (1.4)
Injustice	85.0 (7.5)
Peace and conflict	90.2 (24.5)
Taking action to challenge inequality	83.6 (21.7)

- Standard errors appear in parentheses.
- n.s indicates that this percentage is not significantly representative of the population.

EDUCATION IN CAMBODIA

WHAT CAMBODIAN STUDENTS IN PRIMARY EDUCATIOIN KNOW AND CAN DO IN RELATION TO READING, WRITING AND MATHEMATICS, VIA FINDINGS FROM CAMBODIA'S EXPERIENCE IN SOUTHEAST ASIA PRIMARY LEARNING METRICS 2019 (SEA-PLM 2019).

SEA-PLM 2019 national report is the achievement of the Ministry of Education Youth and Sport in 2020 to identify constraint areas for improvement in education sectors. It was undertaken with highly qualified and acknowledgeable procedures to come with a valid and reliable dataset for analyses to produce quality findings for policy actions at primary education level.

SEA-PLM assesses Grade 5rs based on the curriculum associated with reading, writing, mathematics and global citizenship. The immediate purposes are to generate a evidence-based data for optimize students' learning outcomes and strengthen capacity of local institution on learning assessment. The valid and eligible factors found in the first cycle of SEA-PLM, and potentially contributing to students' learning achievements are gender, age, preschool education, grade repetition, attitudes towards school and mathematics, SES, parental engagement towards schooling, school management, child-friendly school, regions, geographical zone, etc.

The SEA-PLM 2019 is collaborative work of the Ministry of Education, Youth and Sport of Cambodia, SEAMEO, UNICEF APRO, and UNICEF Cambodia.