Supporting teacher to improve learning in 6 Southeast Asian countries
Summary

Investing in the teacher workforce is critical for improving the quality of education and learning across Southeast Asia. Teachers remain one of the most important factors influencing student learning outcomes, yet education systems often fail to adequately recruit, prepare and support teachers to become effective and remain motivated in the profession. Evidence from SEA-PLM 2019 highlights the diversity of the teacher workforce, their classroom conditions, and their level of preparation and training upon entry to the profession. Key findings from new analysis of the SEA-PLM 2019 regional database include:

- Teachers in the 6 participating countries had varying qualifications and degrees of preparation upon entry to the profession. A vast majority of teachers in the Philippines, Malaysia, Myanmar and Viet Nam held bachelor’s degrees or higher, but teachers across Lao PDR and Cambodia rarely had these qualifications. While a majority of teachers reported receiving general pedagogical training, many lacked subject-specific training and training in specific pedagogical approaches necessary for delivering inclusive, quality education for all learners.

- Teachers across the region experienced challenging working conditions. Many teachers worked in classrooms where a large proportion of students had not mastered skills expected in earlier grades. Large class sizes and diverse student language backgrounds compounded the challenges teachers faced in meeting all students’ needs.

- Most teachers reported having limited access to information and communications technology (ICT) in their classrooms, which created barriers to the advancement of 21st-century skills. In many countries, teachers had low levels of confidence using ICT for teaching and learning, which is a concern amid COVID-19 school closures and reopening plans.

- In some countries, the preparation and allocation of teachers was not always well-matched to schools’ needs. In these countries, teachers were responsible for teaching subjects for which they had no training or specialization, despite there being a surplus of teachers with the necessary training in other classrooms. For example, in most countries more than 10% of children were in a classroom with a Grade 5 teacher in charge of teaching reading who had not received any training related to reading instruction, and levels were similar for mathematics instruction in many countries.

As education systems across Southeast Asia continue developing and implementing policies to strengthen the teacher workforce, they must focus on ensuring teachers have supportive working conditions, and comprehensive training and professional development to effectively prepare them to advance learning for all students, especially the most marginalized. Developing and strengthening teacher data and Teacher Management Information Systems (TMIS) can support education systems to better plan for recruiting, training and allocating the teacher workforce.
Introduction

Grade 5 students from Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam have very different learning outcomes, and many students are behind on achieving grade-level learning (UNICEF & SEAMEO, 2020). One critical driver for improving student learning outcomes is building an effective teacher workforce, as teachers have been shown to be one of the most important school-based factors affecting student learning (Rivkin et al., 2005). High-quality teachers can also improve students’ well-being, future academic achievement and future economic outcomes, and have the potential to improve equity by offsetting the learning deficits of disadvantaged students (Béteille & Evans, 2019; Chetty et al., 2014; Rockoff, 2004).

SEA-PLM 2019 Main Regional Report highlights the importance of developing experienced, motivated teachers and creating positive school environments that are conducive to high-quality teaching and learning. This secondary analysis examines data from the 6 SEA-PLM 2019 participating countries to better understand the composition of the Grade 5 teacher workforce and the various factors that may affect their ability to be effective in their classrooms.

This report describes the SEA-PLM programme and analyses the Grade 5 teacher workforce in 4 key areas:

- demographics and training
- working conditions
- specialization and allocation
- reading and mathematics training and instructional practices.
**What is SEA-PLM?**

SEA-PLM (Southeast Asia Primary Learning Metrics) is a new comparative learning assessment programme, designed by and for countries in Southeast Asia. The programme aims to generate reliable data and evidence for monitoring learning outcomes across and within countries, and for understanding what factors drive and hinder children’s learning along their school journey. It also aims to promote cross-border exchange on learning and education policies, and to build the capacity of participating countries to design and conduct solid learning assessments. SEA-PLM aims to help countries to identify, prioritize and address educational challenges in key policy areas, such as curriculum development, resource allocation, pedagogical practice, and planning at national and sub-national levels.

Through the first round of SEA-PLM, stakeholders obtained robust evidence to answer a critical question: How do children in Southeast Asia perform against regional metrics in reading, writing and mathematics at the end of primary school? The SEA-PLM 2019 main survey was implemented during the 2018–2019 school year. Six countries from the region participated: Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Viet Nam. SEA-PLM 2019 collected children’s and schools’ responses through paper-pencil tests and questionnaires, conducted with a sample of children that was representative of the school population enrolled at Grade 5 in each country.

SEA-PLM 2019 used tests to collect valid and reliable data on children’s level of proficiency in 3 learning domains (reading, writing and mathematics), and used a series of background questionnaires to collect extensive information about children, classrooms, teachers, schools, principals, parents and communities. Linking this information to the learning domains provides important insights into variations and inequalities in children’s learning performance, and the different drivers of learning and achievement. A global citizenship module was also developed as an experimental exercise in comparative large-scale assessment at the primary education level, using contextual questionnaires.

SEA-PLM proficiency scales offer a common reference for comparing performance between and within countries. SEA-PLM 2019 methodology enabled the overall national performance of participating countries to be reported for 2 Sustainable Development Goal indicators in reading and mathematics: SDG 4.1.1a (end of lower primary) and SDG 4.1.1b (end of primary).
The SEA-PLM 2019 teacher questionnaire collected information on teachers’ sociodemographic characteristics, level of experience and training, and attitudes and beliefs related to their students, classrooms and schools. All Grade 5 teachers from the sampled schools were invited to anonymously complete the questionnaire.

This report analyses only Grade 5 teachers from the sampled classrooms where students were assessed. Other Grade 5 teachers in charge of other Grade 5 classes in the sample schools were excluded (when applicable) from the teacher dataset when preparing this report, while other grade levels were not included in the SEA-PLM 2019 survey design. The analysis cannot be strictly generalized to the entire teacher workforce in each country across the region, as SEA-PLM 2019 estimates related to Grade 5 children only. For more information regarding the teacher sample and the teacher dataset for this report, see Appendix B.

Questionnaires were provided to children, parents, teachers and principals to create classroom and school datasets. When appropriate, child- and parent-level variables were aggregated at the school or Grade 5 class level to estimate means and ratios. The authors selected variables in the datasets and performed the analysis according to policy interest, data availability and validity. When relevant, data outputs are reported only for specific categories of teachers in the Grade 5 sampled classes. For instance, teachers’ perceptions of teaching reading and writing are reported only for teachers responsible for language lessons, while teaching practices in mathematics are reported only for teachers responsible for mathematics lessons.

Statistical estimates (e.g. means and differences) are nationally representative of the population of children enrolled in Grade 5 formal education at the time of the data collection, as defined by each participating country under SEA-PLM technical standards. These exclusions remained under 5% of the overall national population of children enrolled at Grade 5, meeting the standard sampling methodology of other international large-scale assessments. For exclusion rates, see Appendix 1 in SEA-PLM 2019 Main Regional Report.1

All statistical tests of significance between estimates are reported at the 95% confidence level. At the 95% confidence level, differences in estimates are 95% certain for the entire population of children enrolled at Grade 5. All not statistically significant differences between groups are indicated in notes under the figures.

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1 For example, in some countries, schools considered as very small – one Grade 5 classroom containing fewer than 5 children – were excluded.
In recent decades, successful education systems in Southeast Asia have established policies that focus on recruiting, training and retaining highly qualified teachers. Revitalizing teacher education is a key policy priority across the 6 SEA-PLM countries, which in 2017 adopted the Southeast Asia Teachers Competency Framework. The framework consists of 4 critical competencies that all teachers should possess: (1) knowing and understanding what to teach; (2) helping students learn; (3) engaging the community; and (4) becoming a better teacher every day (SEAMEO et al., 2018). Beyond this shared competency framework, most countries have adopted their own country-level professional standards for teachers based on their unique context and needs, to guide their teacher education programmes and professional development plans (for example, see Republic of the Philippines Department of Education, 2017).

This section examines the demographics, training and skills of Grade 5 teachers.

### Demographics

SEA-PLM data on Grade 5 teacher demographics, presented in Figure 1, demonstrate the diversity of the Grade 5 teacher workforce in sampled classrooms across the characteristics of sex, age and years of experience.

**Figure 1: Percentage of Grade 5 children by teacher demographics**

Note: Data are reported per percentage of children against a defined benchmark.
Teachers’ sex

Across Viet Nam, the Philippines, Myanmar and Malaysia, an average of 72% of children had a female teacher. The share of female teachers was lower in Lao PDR and Cambodia, where on average only 43% of children were in a classroom with a female teacher. Evidence on the effect of teachers’ sex is mixed; some studies suggest that students perform better when assigned to a teacher of the same gender (Dee, 2007; Muralidharan & Sheth, 2016), but other studies have found limited or no effects of teachers’ sex on student outcomes.

Teachers’ age

Across the 6 countries, teachers were categorized as below the age of 35 or 35 years or older. In Myanmar (60%) and Cambodia (55%), a large share of children were in a classroom with a teacher below the age of 35. In the Philippines (34%), Viet Nam (30%) and Malaysia (21%), smaller percentages of children had a teacher below the age of 35, signalling an older workforce.

Teachers’ experience

A growing evidence base suggests teachers improve as they gain more experience and that higher levels of teacher experience are positively associated with student learning outcomes (Podolsky et al., 2019). The effects of teacher experience are most evident in the first 5 years of teaching (Goe, 2007). Of the 6 participating countries, Viet Nam, Malaysia and Lao PDR had the most children in a classroom with a teacher who had more than 5 years of teaching experience. Myanmar had the largest share of children (49%) with a teacher who had less than 5 years of teaching experience, followed by Cambodia (31%) and the Philippines (26%).

Training and skills

International research has demonstrated that teachers’ content knowledge and pedagogical skills can be key predictors of students’ academic performance, and that teachers develop these skills through timely, ongoing and relevant professional development (Blomêke & Delaney, 2012; Chetty et al., 2014; Rivkin et al., 2005). While SEA-PLM does not explicitly assess teachers’ content knowledge, it does provide information on trends in teachers’ level of education, their pedagogical training, and their level of confidence in using certain pedagogies and instructional strategies in their classrooms.

Pre-service qualifications

Global professional teaching standards recommend that all teachers should be trained at the university level and hold formal, recognized teaching qualifications that meet the standards defined by specific countries (UNESCO & Education International, 2019). However, as Figure 2 illustrates, the academic credentials of teachers from the 6 SEA-PLM countries were mixed and, in some countries, fell below this international benchmark. All children in the Philippines, 89% of children in Malaysia, 88% of children in Myanmar, and 68% in Viet Nam had a teacher with ISCED level 6 education or above, indicating they have completed at least a bachelor’s degree from a university. But across Lao PDR and Cambodia, on average less than 1% of children had a teacher who held this credential, reflecting national policies that have lower requirements for teacher qualifications. Estimates also reflect the impact of previous policies from more than a decade ago.
In Lao PDR (93%), a vast majority of children were in a classroom with a teacher whose highest level of education was either ISCED level 5 or ISCED level 4, indicating they had completed some level of post-secondary training but had not obtained a bachelor’s degree. Few children were in a classroom where their teacher had only completed secondary education or below (ISCED level 3 or below). However, in Cambodia, 61% of children were in a classroom where their teacher had only completed secondary education or below (including 5% of children in a classroom where their teacher had completed just the first 3 years of secondary education, lower secondary education). This is despite the fact that Cambodia’s teacher qualifications expect teachers to complete 12 years of education and at least one additional year of teacher training (UNESCO, 2014). Past evidence suggests that low salaries and low entry requirements for Cambodian teachers fail to attract top candidates to the profession. Even when teacher candidates enrolled in provincial teacher training centres to receive their teaching credential, nearly all were in the bottom half of performers on the Grade 12 exam (Tandon & Fukao, 2015).

Similar trends were found in Malaysia, where despite a majority of children being in a classroom with a teacher who had received a bachelor’s degree, previous evidence has found that many teacher trainees enrolled in the training colleges did not meet the minimum academic requirements for entry some years ago (Sander et al., 2013). Malaysia, has since 2014, revised the minimum official requirements for entering the teacher training colleges to require candidates obtain a distinction in at least five subjects in the national assessment. Some countries are attempting to create more flexible criteria for teachers to gain entry to the profession, especially where current teacher shortages exist. For example, Lao PDR’s Education and Sports Sector Development Plan for 2021–2025 includes a priority to define minimum standards for entrants to teacher training colleges but allows applicants to retake entrance examinations if they were not initially successful in passing (Ministry of Education and Sports, Lao PDR, 2020). However, recent evidence from Lao PDR suggests that teachers’ content knowledge remains low despite teachers receiving formal credentials (Demas et al., 2018; UNICEF Innocenti, 2021).

Across the 6 countries, nearly 1 in 3 principals reported that the lack of qualified teachers was an issue that hindered their school’s ability to provide quality instruction to children (see Appendix B, Table B5).
Pedagogical training

Understanding the content of teachers’ pedagogical training is just as important as knowing the duration and level of training they have received. Sound pedagogical knowledge contributes to effective teaching and learning, enabling teachers to manage their classrooms, create positive learning environments and deliver high-quality lessons that actively engage students (Ulferts, 2019). SEA-PLM surveys asked teachers if they had received training (pre-service, in-service, both or neither) in a range of pedagogies, with results presented in Figure 3.

Figure 3: Percentage of Grade 5 children by teachers’ pedagogical training content

Data show that teachers had received varying types of pedagogical training. Training in general teaching methods and pedagogy was most common across all SEA-PLM participating countries, with an average of 92% of children in a classroom where the teacher reported having received that training. However, training in specific pedagogical approaches varied at the country level. Except for Viet Nam, levels of training in inclusive education and special needs education were low: on average across the remaining 5 participating countries, 61% of children had a teacher who indicated having received no training in this area, leaving many teachers unprepared to support students with disabilities.

Training in information and communications technologies (ICT) also varied widely between countries. In Viet Nam (96%), Malaysia (91%) and the Philippines (83%), the majority of children were in a classroom with a teacher who had received training in ICT; by contrast, a majority of children in Cambodia (78%), Lao PDR (74%) and Myanmar (51%) were in a classroom with a teacher who had received no training in ICT. In the context of COVID-19 school closures, limited ICT training may create barriers for teachers to effectively deliver remote learning.
Confidence using instructional practices

Instructional practices that teachers use in their classrooms are diverse and should adapt to align with students’ changing needs and the learning objectives. Teachers’ self-efficacy, or their confidence and belief in their own abilities to influence student learning, can influence their behaviours and which instructional practices they use in their classroom (Skaalvik & Skaalvik, 2007). Figure 4 illustrates teachers’ self-reported confidence in using a broad range of instructional practices to support student learning.

Figure 4: Percentage of Grade 5 children by teachers’ confidence in using various teaching approaches

Teachers generally reported feeling confident using a range of instructional practices, particularly more active learning strategies. On average, 97% of children were in a classroom where their teacher reported feeling confident using group work. Students working together in small groups to achieve learning tasks has been shown to promote higher student achievement than individual work (Johnson et al., 2000). Teachers also indicated feeling confident in using other active learning strategies, such as discovery learning, problem-solving and role-playing. ICT-supported activities, which have become a priority for education systems as they build capacity for digital and remote learning in the context of COVID-19, remained an area where teachers lacked confidence: only 57% of children in Myanmar, 54% of children in Lao PDR and 41% of children in Cambodia had a teacher who reported feeling confident using ICT as part of their instruction.
Five measurable, policy-relevant teacher characteristics are frequently cited in international research as influencing teacher quality and student achievement in the classroom: teacher experience, teacher preparation programmes and degrees, type of teacher certification, specific coursework taken in preparation for the profession, and teachers’ own test scores (Rice, 2003).

Using a subset of classroom-level aggregated teacher data, SEA-PLM 2019 tested the statistical relationship between several Grade 5 teacher characteristics and Grade 5 student learning outcomes, including:

- the association between teachers’ number of years of experience and student learning outcomes in reading, writing and mathematics
- the association between teachers receiving pre-service training and student learning outcomes in reading, writing and mathematics
- the association between teachers’ subject specialization and student learning outcomes in reading, writing and mathematics.

No statistically significant and consistent relationships were found across the 6 countries, within each country, or in any of the 3 learning domains. These results suggest that in the SEA-PLM model, Grade 5 teachers’ individual characteristics are not good predictors to explain Grade 5 children’s learning variation, except for specific settings in few countries (see Appendix B, Table B8). Nevertheless, all stakeholders agree that teacher attributes and quality are an important policy issue in education reform.

There are several important limitations on using SEA-PLM 2019 data to analyse teacher quality and students’ assessment scores. First, the student test was not designed to evaluate teachers and could not take into consideration variations in teachers’ instructional quality. SEA-PLM’s study design did not allow for using a value-added model to examine the effect of Grade 5 teachers alone, and it is likely that many factors influence students’ learning trajectories before they enter Grade 5. No statistical controls were used for students’ prior learning achievement before entering Grade 5. SEA-PLM 2019 also measured student learning through tests that were curriculum referenced and by definition did not strictly reflect the breadth of the national curriculum and classroom-implemented curriculum.

In some cases, children have more than one Grade 5 teacher who is responsible for delivering subject-specific curriculum. For the purpose of this specific SEA-PLM analysis, when more than one teacher was in charge of teaching a subject, all teacher characteristics were aggregated as a proxy to estimate one unique attribute.
Teachers’ working conditions can affect their job satisfaction and retention in the profession (Darling-Hammond, 2003); and favourable working conditions can be a predictor of higher levels of student learning in some contexts (Johnson, Kraft & Papay, 2012). A range of factors contribute to teachers’ working conditions, including student characteristics, adequate infrastructure and instructional resources like textbooks and technology, working hours, support from other teachers and administrators, and the ability to contribute to school decision-making (Darling-Hammond, 2003). Student characteristics and teachers’ working conditions are often closely related, with poorer working conditions associated with schools that serve high concentrations of low-performing students, students from low socioeconomic status backgrounds, and other marginalized groups (Horng, 2009). SEA-PLM data provide rich insights into Grade 5 teachers’ working conditions by identifying challenges teachers face when trying to support all students to achieve learning.

This section examines the effect on teachers of class composition; access to teaching and learning materials; and motivation, morale and support from colleagues.

**Class composition**

- **Students’ skills**

  Heterogeneity in the classroom poses challenges for teachers in meeting all students’ needs. Across SEA-PLM participating countries, teachers work in classrooms where a majority of their students have not mastered skills expected in earlier grades, making it challenging for them to prepare lessons, effectively manage their classroom, and support all students to learn. SEA-PLM 2019 found that only about 1 in 4 children across the region were in a classroom where less than 10% of their peers were low-performing in reading the language of instruction (see Figure 5). In some countries, the skills gap was stark: 19% of children in Lao PDR, 14% of children in the Philippines, and 10% of Grade 5 children in Cambodia were in a classroom where more than half of their peers were only achieving Grade 1 reading competencies.

  Grade 5 teachers perceived students’ varied learning levels to be the biggest challenge in their classroom. On average across the 6 countries, 74% of children attended schools where teachers reported students’ lack of basic knowledge and skills to be the largest issue affecting learning. COVID-19 threatens to widen these learning disparities, as the most disadvantaged students are often the least likely to access remote learning during school closures (UNICEF, 2020).

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2 This comprises children from the categories more than 50% to less than 75% - and - 75% and more.
Students’ language background

Several compounding factors beyond the teacher’s control can affect children’s learning levels and create conditions that make teaching and learning difficult. Students’ home language background is one such factor, and SEA-PLM 2019 illustrated the diverse linguistic contexts across the 6 participating countries. In Vietnam (84%), Cambodia (80%) and Myanmar (64%), most children were in a classroom where more than 90% of their peers often spoke the language of instruction at home (see Appendix B, Table B10). But in Lao PDR, only 26% of children were in a classroom where most children spoke the language of instruction at home. In the Philippines, nearly all children were in a classroom where most students did not often speak the Grade 5 language of instruction at home. Communication barriers between teachers and students may prevent teachers from using effective pedagogies and student-centred instructional practices.

3 See SEA-PLM 2019 Main Regional Report, Chapter 1 for more information on the language of instruction policy in primary education.
Box 3: Differentiated instruction and student assessment

Teachers need adequate support and pedagogical training to assist all students, especially those furthest behind on learning. Targeting instruction to the level of the child has consistently been shown to improve student learning outcomes (Evans & Popova, 2016). Yet in Malaysia (57%), Lao PDR (52%) and Cambodia (39%), a large proportion of Grade 5 children were in a classroom where their teacher reported receiving no training on differentiated instruction.

Assessing students’ learning levels is a critical component of differentiated instruction; however, 34% of children in Lao PDR and 29% of children in Cambodia were in a classroom where their teacher reported receiving no training on student assessment, making it difficult for teachers to meet all learners’ needs.

The Southeast Asia Teachers Competency Framework indicates that teachers should be able to assess student learning levels, understand students’ differences in learning pathways, and adjust their instructional practices to meet students’ diverse learning needs (SEAMEO et al., 2018), but SEA-PLM 2019 data suggest current teacher training programmes may not be adequately preparing teachers in these core competencies.

Class size

Large class sizes exacerbate the challenges teachers face in supporting students from disadvantaged backgrounds and those behind on learning. Smaller class sizes can allow teachers to improve classroom management and instructional practices, differentiate instruction and target support to students who fall behind, and increase student motivation and engagement (Anderson, 2000; Konstantopoulos & Sun, 2013). While evidence is mixed on whether smaller class sizes have a positive impact on student learning, some research from low- and middle-income countries suggests positive effects in primary schools (McEwan, 2015; Wößmann & West, 2006). Figure 6 shows the share of Grade 5 children according to the size of their classes – fewer than 25 students, 25 to 40 students, or more than 40 students. Across the region, 1 in 5 children were in a classroom with more than 40 students.
The Philippines, Myanmar and Cambodia had the highest shares of Grade 5 children in large classes: 39% of children in the Philippines, 29% of children in Myanmar and 23% of children in Cambodia were in a classroom with more than 40 students. Class sizes were smallest in Lao PDR and Myanmar, where 66% and 44% of children, respectively, were in a classroom with fewer than 25 students. In Viet Nam (64%), Malaysia (63%) and Cambodia (52%), a majority of Grade 5 children were in a classroom with 25 to 40 students.

Across the 6 countries, 41% of children were in a classroom where the teacher indicated that disruptive students were affecting learning to a large extent, a possible effect of larger class sizes, which can make it difficult for teachers to effectively manage their classrooms. More than 60% of children reported that their teacher had difficulty getting students to quiet down in class, creating a barrier for teaching and learning.
Access to teaching and learning materials

Having adequate teaching and learning materials can improve teachers’ motivation and help facilitate better teaching in the classroom. The availability of teaching and learning materials such as textbooks, classroom libraries and digital technologies may also influence teachers’ pedagogical practices and interactions with students, and can ultimately help to improve student learning outcomes (Chingos & Whitehurst, 2012; Global Education Monitoring Report Team, 2016).

Across SEA-PLM 2019 participating countries, print-related teaching and learning materials were the most readily available, as shown in Figure 7. On average, 90% of children were in a classroom where their teacher reported having a class set of textbooks in the classroom available, with the lowest rate reported in Malaysia (62%) although the country’s policy specifies that free textbooks should be provided to all students. In Malaysia, since 2007 teachers and Malaysian students are given free textbooks to bring to the classroom according to the time table. Access to classroom libraries was more varied: only 34% of children in Cambodia, 56% of children in Lao PDR, and 58% of children in Myanmar had a teacher who reported having access to a classroom library, despite evidence that access to libraries in the school and the classroom can support student learning (Lonsdale, 2003). Wall charts, which are often used to display core concepts and vocabulary, were also common in classrooms, with an average of 89% of children in a classroom where their teacher reported having wall charts.

Figure 7: Percentage of Grade 5 children by access to teaching and learning materials in the classroom
By contrast, access to information and communications technologies (ICT) in classrooms was severely limited, signalling a resource gap as SEA-PLM countries strive to develop children’s 21st-century skills. Greater access to ICT in schools can help to reduce the digital divide between students from high and low socioeconomic status backgrounds (Global Education Monitoring Report Team, 2014). Across the region, only 22% of children were in a classroom where their teacher reported having access to a working computer. These rates were lowest in Myanmar, where only 8% of children were in a classroom where their teacher reported having a computer. In Viet Nam, where access was highest for the region, still only 39% of children were in a classroom where their teacher reported having a computer.

Access to other technologies was similarly limited; on average, only 15% of children were in a classroom where their teacher reported having a working overhead projector. This figure was the same for interactive whiteboards. Electricity is a critical factor in supporting technology-enabled learning, yet in Cambodia (38%), Lao PDR (44%) and Myanmar (50%), many children were in a classroom that lacked the power outlets necessary for sustained technology use. In the context of COVID-19, where ICT and digital learning platforms are part of the remote learning response during school closures, teachers’ limited access to ICT in their classrooms poses a particular concern, as limited access may be associated with reduced ICT skills and low confidence to use ICT in their instruction.

**Motivation, morale and support from colleagues**

Teachers’ motivation and morale among colleagues can both be influenced by and contribute to working conditions for teachers. Positive relationships between teachers within a school, and between teachers and principals can help to motivate teachers, foster good morale, and create positive working conditions that are conducive to peer learning. Comparable international assessments have found that students attending schools where teachers have higher morale are less likely to be low-performing (OECD, 2016). SEA-PLM 2019 surveyed teachers on their perception of teacher morale at their schools. Across the 6 countries, the percentage of Grade 5 children with a teacher who reported that teacher morale in their school was high ranged from 42% to 91%. Teacher morale was lowest in Myanmar, where only 42% of children had a teacher who reported high teacher morale in their school, and highest in the Philippines and Malaysia, where 87% and 91% of children, respectively, had a teacher who reported high teacher morale. Teacher morale, attitudes, pride, enthusiasm and feeling of belonging were lowest in Cambodia and Myanmar, and highest in Malaysia and the Philippines, with Lao PDR and Vietnam in the middle ranges.

School leadership plays an important role in influencing teacher morale and motivation (Evans, 2001), and creating positive working conditions for teachers, both of which can indirectly influence student learning outcomes (Pont et al., 2008). Instructional leadership provided by school principals can indirectly affect student learning outcomes by supporting teachers to become more effective. SEA-PLM 2019 data reveal that 98% of Grade 5 children across the 6 countries were with school principals who reported using classroom observations to evaluate teacher performance – national averages are very high in all countries. Instructional leadership was also evident among teachers, with 79% of principals reporting that teachers conducted classroom observations for each other, creating a culture of learning among peers. This value is very high in most countries except in Myanmar (57%) and the Philippines (68%). Professional learning communities bring teachers together to collaborate, reflect and learn from one another’s practice in order to improve student learning. Collaborative in-service professional development opportunities, like professional learning communities and peer observations, can positively affect teachers’ confidence, self-efficacy, instructional practices and knowledge (Cordingley et al., 2005).
Teachers’ specialization and allocation

SEA-PLM 2019 found that national policies on teacher specialization differ across the 6 participating countries, with some countries training teachers as generalists (who study and teach all subject areas of the curriculum) and others training teachers as specialists (who study and teach in one subject area, such as mathematics). For example, in Lao PDR 85% of children were in a classroom with a generalist teacher who taught all or most of the subject areas. In Myanmar, on the other hand, teachers can complete specialized training alongside or in addition to their foundational core subjects (Ministry of Education, Myanmar, 2019). In Malaysia, teachers specialize in a subject during pre-service teaching with the goal of ensuring adequate content knowledge (Ministry of Education, Malaysia, 2013). This results in more specialist teachers for most of the children in most of the schools (see Figure 8).

Governments need to allocate teachers so that teacher supply matches the schools’ requirements and the subjects expected in the curriculum, especially in rural and remote areas. Figure 8 takes the example of language teaching, showing the availability and distribution of generalist and specialist teachers for Grade 5 children’s language lessons. The data reveal possible gaps in teacher preparation, availability and allocation, indicating where education systems may need to target additional resources or where countries may already have provided additional resources in certain contexts.

The following categories are based on survey data submitted by Grade 5 teachers in sampled classrooms, to show the proportion of children undertaking language lessons with:

- one non-language specialist teacher
- one generalist or language specialist teacher
- more than one generalist or specialist (language or non-language) teacher.

Figure 8: Percentage of Grade 5 children by number and type of teachers available for language lessons

Note: Categories are exclusive. Data are based on questionnaires collected in the schools and self-reported responses provided by teachers.
As shown in the red bars, in Lao PDR (73%), Cambodia (68%), Myanmar (56%) and Viet Nam (50%), a large share of children were in a classroom where there was one generalist or language specialist teacher for language lessons. The remaining children were often in a classroom with one non-language specialist teacher (dark blue bar), or more than one generalist or specialist (language or non-language) teacher (light blue bar).

In the Philippines, only 33% of children had language lessons with one generalist or language specialist teacher, while 46% had language lessons with more than one generalist or specialist (language or non-language) teacher. In Malaysia, 86% of children had language lessons with more than one generalist or specialist (language or non-language) teacher, while a much smaller proportion of children were in a classroom with one generalist or language specialist teacher (5%), or one non-language specialist teacher (9%). Recent appeals to fill teacher shortages in Malaysia have focused on specific subject areas (for example, English, history and special education) despite the country’s surplus of teachers with other subject area specializations (Adam, 2021). The Ministry of Education of Malaysia has acknowledged it aims to place teachers based on subject specialization, but has faced challenges that result in teachers teaching subjects for which they do not have specific training (Ministry of Education, Malaysia, 2013). For many countries, new ways of training and allocating the workforce may be necessary.

In nearly all countries, a significant share of Grade 5 children were in a classroom where the only teacher was a specialist in a subject other than language. In Cambodia, 31% of children were in language lessons with a teacher whose content specialization was not language; and, unlike other countries, there were nearly no instances of children having more than one teacher in language lessons.

These findings were similar for mathematics lessons (see Appendix B, Table B16). While SEA-PLM data only allow for analysis at the Grade 5 level, further data and analysis is needed to understand whether this challenge is evident at the other grade levels and subjects.
Reading and mathematics teachers’ training and instructional practices

Teachers in upper primary must be adequately prepared to teach complex skills, building on the basic skills students learn throughout lower primary. In both reading and mathematics, teachers need to have firm content and pedagogical knowledge to support students in achieving these higher-level skills, while also being able to scaffold instruction to support students who have yet to master the foundations. This section focuses specifically on reading and mathematics teachers, describing their subject-specific training and the instructional practices they report using in their classrooms.

Reading

Teaching reading is a complex task that can be made more challenging for teachers when their students have diverse learning levels and language backgrounds. Reading teachers must be adequately trained in instructional practices that are explicit, systematic and engaging, and that align with the science of how students learn to read (National Reading Panel, 2000). Figure 9 presents an analysis of Grade 5 teachers responsible for teaching reading in the language of instruction, and the type of training they reported receiving.

Figure 9: Percentage of Grade 5 children in language lessons by the level of training the teacher had received to teach reading

Effective professional development and preparation for teachers should span pre-service and in-service education and be continuous so that teachers’ skills evolve throughout their careers (World Bank, 2018). On average, though, only 35% of children were in language lessons with a teacher who had received both pre-service and in-service training in reading instruction, with the highest rates reported in Viet Nam (56%), followed by Malaysia (41%) and Cambodia (41%). In 5 out of the 6 countries more than 10% of Grade 5 children were in a classroom with a teacher who had not received any training related to reading instruction. In Lao PDR 36% of children had a teacher with no training in reading instruction; in the Philippines and Cambodia the figure was around 20%, and in Malaysia and Myanmar around 12%.
SEA-PLM 2019 surveyed teachers not only on their level of training to teach reading but also on the instructional practices and learning activities they used within their classrooms. Effective reading instruction is systematic and helps to gradually move students from simple to more complex reading tasks and skills to help them gain mastery and read to learn (International Literacy Association, 2019). Figure 10 illustrates how often teachers used various reading activities that support higher-order cognitive skills and move students towards achieving reading comprehension. Darker shades of green indicate teachers regularly using the activities and lighter shades of green indicate less frequently used activities.

**Figure 10: Heat map – percentage of Grade 5 children by activities regularly used by reading teachers**

<table>
<thead>
<tr>
<th>Identify the main idea within texts</th>
<th>Retrieve information from texts</th>
<th>Provide definitions of unfamiliar words in texts</th>
<th>Summarize what has been read</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>92.2</td>
<td>86.5</td>
<td>97.5</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>91.0</td>
<td>90.4</td>
<td>88.9</td>
</tr>
<tr>
<td>Malaysia</td>
<td>88.4</td>
<td>87.1</td>
<td>86.0</td>
</tr>
<tr>
<td>Myanmar</td>
<td>94.7</td>
<td>88.6</td>
<td>95.2</td>
</tr>
<tr>
<td>Philippines</td>
<td>91.9</td>
<td>89.9</td>
<td>95.1</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>99.5</td>
<td>99.5</td>
<td>99.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyse the structure and form of texts</th>
<th>Evaluate the mood and tone of texts</th>
<th>Evaluate the ideas in texts</th>
<th>Reflect on how texts relate to the students’ own world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>77.5</td>
<td>92.0</td>
<td>88.3</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>76.5</td>
<td>90.0</td>
<td>74.2</td>
</tr>
<tr>
<td>Malaysia</td>
<td>79.9</td>
<td>84.0</td>
<td>77.2</td>
</tr>
<tr>
<td>Myanmar</td>
<td>72.1</td>
<td>90.8</td>
<td>82.9</td>
</tr>
<tr>
<td>Philippines</td>
<td>89.6</td>
<td>92.3</td>
<td>87.5</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>98.2</td>
<td>97.5</td>
<td>97.7</td>
</tr>
</tbody>
</table>

Note: Regular use was defined as the teacher indicating weekly, almost daily, or daily use of the strategy.

Children’s reading teachers reported regularly using a wide range of activities. However, in some instances, as activities increased in cognitive complexity, teachers reported using them less regularly. This was evident in Cambodia, Lao PDR, Malaysia and Myanmar, where a smaller percentage of children had teachers who regularly had them analyse the structure of texts; in Malaysia and Myanmar, where a smaller percentage of children had teachers who regularly had them evaluate the mood and tone of texts; and in Lao PDR and Malaysia, where a smaller percentage of children had teachers who regularly had them reflect on how texts related to their own world.

### Mathematics

Effective mathematics teachers employ a range of instructional strategies that allow students to make connections between mathematical concepts and real-life applications, to move from simple to more complex tasks, and to think critically to explain and justify their thinking rather than focus only on the correct answer (Anthony & Walshaw, 2019; National Council of Teachers of Mathematics, 2014). Mathematics teachers must receive adequate training in pedagogical practices that create positive learning environments for students and that scaffold instructional practices based on students’ learning levels. Figure 11 presents analysis of Grade 5 mathematics teachers and the type of training they reported receiving.
Children across the Philippines, Cambodia and Lao PDR were on average 5 times more likely to have a teacher who reported having received no training in mathematics than children across Viet Nam, Malaysia and Myanmar. Teacher training levels were highest in Viet Nam, where 99% of children were in mathematics lessons with a teacher who had received some type of training to teach the subject. Training levels were lowest in Lao PDR, where 36% of children had a mathematics teacher who reported having received no training in the subject. Similar to the findings for teachers of reading, on average only 39% of children were in mathematics lessons with a teacher who had received both pre-service and in-service training in mathematics. Children in Viet Nam and Malaysia were most likely to have a teacher who indicated receiving both, but on average these rates were just 57% in these countries.

Mathematics teachers in SEA-PLM participating countries were surveyed on their use of various instructional practices and learning activities within their classrooms. Figure 12 demonstrates that most children were in a classroom where the mathematics teacher reported regularly using a range of activities, including independent, group and whole-class work.

| Cambodia | 100.0 | 95.7 | 93.3 | 97.7 | 88.4 |
| Lao PDR  | 98.4 | 93.7 | 97.4 | 99.0 | 96.2 |
| Malaysia | 96.1 | 94.4 | 96.4 | 96.1 | 93.0 |
| Myanmar  | 95.8 | 90.0 | 90.8 | 91.3 | 88.0 |
| Philippines | 97.0 | 95.5 | 96.2 | 97.6 | 91.4 |
| Viet Nam | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |

| Cambodia | 97.1 | 92.2 | 81.4 | 3.4 | 75.7 |
| Lao PDR  | 96.7 | 93.0 | 67.1 | 9.4 | 79.1 |
| Malaysia | 96.4 | 94.0 | 64.8 | 39.0 | 45.8 |
| Myanmar  | 96.2 | 90.9 | 38.9 | 1.0 | 21.7 |
| Philippines | 93.8 | 95.8 | 96.5 | 43.6 | 45.6 |
| Viet Nam | 99.5 | 100.0 | 74.9 | 41.7 | 37.4 |

Note: Regular use is defined as the teacher indicating weekly, almost daily, or daily use of the strategy.
Notably, children often had teachers who did not regularly use computer-based resources during mathematics lessons, signalling the limited use of ICT in mathematics classes across SEA-PLM participating countries. On average, less than 5% of children in Cambodia, Lao PDR and Myanmar were in a mathematics class where computer-based resources were regularly used. While computer use was higher in Malaysia, the Philippines and Viet Nam, still less than 40% of children on average in these countries had a mathematics teacher who regularly used computer-based resources.
Policy implications

This SEA-PLM 2019 secondary report provides a comparative analysis of Grade 5 teachers’ demographics, training and professional development, instructional practices, working conditions, specialization and allocation across the 6 participating countries before the COVID-19 pandemic. It complements the existing Southeast Asia Teachers Competency Framework, which has been developed for and by Southeast Asian countries to support education ministries in improving the quality of the teacher workforce and the education of children with 21st-century skills. This report identifies existing challenges and gaps in order to inform policy discussions and long-term planning for effectively recruiting, training, managing and retaining teachers, who are critical agents in providing quality education for all children.

The following recommendations have emerged from this analysis, with the aim of helping SEA-PLM countries to develop long-term, sustainable policies for building back better in education amid the COVID-19 pandemic.

- Develop a pipeline of well-prepared teachers by improving pre-service education

Across SEA-PLM participating countries, many current teachers lack adequate pedagogical and subject-specific training even before they enter the classroom. In all of the countries, there are teachers who are responsible for teaching subject areas in which they have no formal training. In some countries, an ageing teacher workforce heightens the need to strengthen the pipeline of well-qualified teachers. Countries should evaluate pre-service teacher education and curricula to ensure that all teacher candidates master the core competencies expected, with a strong focus on subject-matter knowledge and pedagogical skills. Minimum entry requirements for teacher education institutions should be evaluated and enforced. Where teacher candidates fail to meet minimum entry requirements, pre-service education should provide intensive remediation to ensure teacher candidates can achieve mastery. Pre-service education curricula should also include an adequate teaching practicum to create opportunities for teacher candidates to develop their confidence and practise applying their knowledge in a real classroom setting.

- Strengthen the effectiveness of the existing teacher workforce by providing relevant, ongoing professional development aligned to teachers’ needs

Countries should strengthen continuing professional development and align both pre-service and in-service training with national teacher competency standards, subject area specialization needs, children’s learning levels and local school context. At the national level, further emphasis should be placed on designing and implementing in-service professional development that addresses gaps in the existing workforce; for example, in most countries, SEA-PLM questionnaires revealed that those gap could be in the use of ICT, inclusive education, and differentiated instruction. Where relevant, countries could consider developing diagnostic assessments for teachers’ competencies and using the data to inform in-service training design, particularly at the school level, where professional development has been found to be most successful. Establishing mentoring and
professional learning communities at the school level can also create opportunities for teachers to collaborate and support one another to increase knowledge and implement new instructional practices, which could lead to improved student learning.

- **Improve teachers’ working conditions in order to attract and retain a motivated, experienced teacher workforce**

Many students are behind on learning when they enter Grade 5, which creates challenging working conditions for teachers. In some countries, the linguistic diversity of students and large class sizes may exacerbate existing challenges for teachers in supporting all students to achieve grade-level learning. Education systems should prioritize improving the working conditions for teachers by ensuring they have the teaching and learning materials, instructional support and training (including in differentiated instruction and inclusive pedagogies) required to support all learners. Amid COVID-19 school closures and reopenings, countries should ensure safe working conditions for all teachers, and school leaders should work to provide instructional leadership that nurtures teachers’ motivation and morale.

- **Invest in information and communications technologies (ICT) and support teachers to leverage technologies to support student learning**

Across SEA-PLM participating countries, teachers’ access to ICT in their classrooms remains severely limited, with only 1 in 5 children in a classroom where their teacher reported having access to a computer. Countries must continue to work towards closing the digital divide, including by investing in technologies and the enabling infrastructure (electricity and internet connectivity) necessary to maximize their potential. Beyond investment in devices and infrastructure, countries should improve teachers’ own digital skills and confidence to use ICT in their lessons through practical hands-on training. Providing teachers with structured guidance and targeted coaching will not only improve teachers’ abilities to incorporate technologies into their lessons when schools are open but also, in the context of COVID-19, better prepare them to transition to remote learning if schools are forced to close again.

- **Strengthen data generation and use data-driven systems to effectively monitor and manage the teacher workforce**

SEA-PLM analysis indicates that some schools may be experiencing a mismatch between teachers’ profiles and schools’ needs, which creates difficult working conditions for teachers and inadequate learning environments for students. Data-driven teacher management systems, such as Teacher Management Information Systems (TMIS), should collect adequate, timely data on teacher characteristics, which can then be analysed in conjunction with Education Management Information Systems (EMIS) data on school facilities, student demographics, enrolment and learning outcomes. Education ministries can use this data to inform more equitable resource allocation, including placing additional well-qualified teachers in disadvantaged schools, reducing class sizes, and teacher workloads and specialization, and providing additional targeted training and pedagogical support to teachers. TMIS can also be used as a human resource management tool to help monitor teachers’ lifelong career development and forecast supply and demand issues to ensure a pool of well-qualified teacher candidates.