



**KINGDOM OF CAMBODIA
NATION RELIGION KING**

MINISTRY OF EDUCATION, YOUTH AND SPORT

A COUNTRY REPORT

**PISA 2022 RESULTS
FOR CAMBODIA**



FEBRUARY 2024

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Foreword

The goal of education is to build human capital as well-rounded and global citizens through not only building a solid foundation of learning but also cultivating students' personality, morality and behaviors. In this regard, in any education system, ensuring access and equity in education is as important as improving the quality and relevance.

In the 7th mandate of the National Assembly, the Ministry of Education, Youth and Sport is determined to implement the school reforms in a large scale to strengthen school governance and culture to improve student learning outcomes. To this end, Cambodia participated in PISA for the first time in 2022 after building its capacity in PISA-D in 2017.

By participating in PISA 2022, Cambodia is able to 1) measure student competency at the age of 15 in both knowledge and skills in reading, mathematics and science based on international standard as reflected in the PISA competency framework, 2) compare proficiency of Cambodian student with that of the PISA minimum level, with OECD countries, and countries in the region, 3) examine characteristics of students at the age of 15, their families, schools, teachers, and the communities that make one school outperform the others, and 4) determine holistic policies and interventions to improve education results in Cambodia.

This PISA 2022 national report provides rich data to all stakeholders to take actions at their capacities to jointly make Cambodia's education better.

The Ministry of Education, Youth, and Sports is committed to fully responding to the findings and policy options in this report through reforms in school governance, teacher education, curriculum and textbooks, teaching methods and student assessment. Through these actions, we are confident that our students will have the opportunity to acquire knowledge and skills required by the changing society and economy.


Phnom Penh, 21 February 2024

Dr. HANG CHUON NARON

Deputy Prime Minister

Minister of Education, Youth and Sport

Preface

The purpose of this publication is to present the results of Cambodia's participation in the OECD's Programme for International Student Assessment (PISA) in 2022. This report presents Cambodia's 15-year-old student performance and its trend compared with PISA-D results that Cambodia participated in 2017.

PISA assesses student performance in reading, mathematics and science. PISA 2022 is the eighth cycle with 81 countries and economies. For Cambodia, 5279 students in 183 schools completed the PISA tests and questionnaires. PISA data were used to analyze student performance in reading, mathematics and science as well as student and school life, school environment and community participation in schooling in Cambodia.

This report was produced based on the test and questionnaire data administered in 2022. The draft report was also consulted with experts from relevant departments, subject teachers and policy makers. Feedback from the consultations was then incorporated into the report in the form of the policy recommendations. Finally, the report was endorsed by MoEYS for actions.

Cambodia's participation in PISA would not have been possible without strong collaboration between MoEYS and OECD and contributions from PoE, school principals, teachers, students and parents.

Education Quality Assurance Department

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A Country Report

PISA 2022 Results for Cambodia

I. What is PISA?

- PISA was launched in 1997 as a triennial survey of 15-year-old students around the world and the first assessment was conducted in 2000 with 32 countries and economies. PISA 2022 is the eighth assessment with 81 countries and economies.
- PISA assessments evaluate both students' ability to reproduce what they have learned during their basic education and their proficiency in extrapolating from acquired knowledge and applying it effectively in unfamiliar settings, both within and beyond the school environment.
- PISA does not only provide an internationally comparable measure of student competency at age 15 but also allows countries and economies to learn from each other on education policies and actions that work and measure their education progress in meeting key learning objectives (e.g., SDG).
- PISA assesses student performances in three subjects (reading, mathematics and science).
- First-time participating countries in PISA 2022 include Cambodia, El Salvador, Guatemala, Jamaica, Mongolia, the Palestinian Authority, Paraguay and Uzbekistan.
- Cambodia participated in PISA for the first time in 2022 following its successful participation in PISA for Development (PISA-D) in 2017. PISA-D experience equipped Cambodia with the establishment of a PISA National Task Force, development of PISA-based test items in Khmer language for use at schools, data management, data analysis and reporting.
- In PISA 2022, among the three subjects, mathematics is the main focus of the assessment.

II. How does PISA benefit Cambodia?

- The participation in PISA/PISA-D enables Cambodia to
 - measure student competency at the age of 15 in both knowledge and skills in reading, mathematics and science based on international standard as reflected in the PISA competency framework
 - compare proficiency of Cambodian student with that of the PISA minimum level, with OECD countries, and countries in the region

- examine characteristics of students at the age of 15, their families, schools, teachers, and the communities that make one school outperform the others
- determine holistic policies and interventions to improve education results in Cambodia.

III. Overview

The content

- The PISA 2022 survey focused on mathematics, reading, science and creative thinking as minor areas of assessment; Cambodia did not participate in the assessment of creative thinking. PISA 2018 also included an assessment of young people’s financial literacy, which was optional for countries and economies. Results for mathematics, reading and science were released on 5 December 2023 and results for creative thinking and financial literacy in 2024.

The schools

- In Cambodia, the total number of school population in which 15-year-old students enrolled is 2020 schools. The assessment drew a sample of 183 school at random within the combination of three Explicit Stratums (region, geographical zone, and school type) for PISA 2022.

Table 1: The number of sampled schools across regions, geographical zones, school types, and school management

Characteristics	N	%
Region		
Urban	47	25.7
Rural	136	74.3
Geographical zone		
Plains	86	47
Tonle sap	56	30.6
Plateau	26	14.2
Coastal	15	8.2
School type		
College G7-G9*	90	49.2
Lycee G7_G12	89	48.6
Lycee G10_G12	4	2.2
School administration		
Public	172	93.9
Private	11	6.1
Total	183	

* Some colleges may not have all the three grades.

The students

- Some 690 000 students took the assessment in 2022, representing about 29 million 15-year-olds in the schools of the 81 participating countries and economies.
- In Cambodia, 5279 students in 183 schools completed the assessment in mathematics, reading or science, representing about 126,589 15-year-old students (36.3% of the total population of 15-year-olds).

Table 2: The number of sampled students by grade, gender, region, and geographical zones

Characteristics	N	%
Grade		
12	42	0.8
11	660	12.5
10	2228	42.2
9	1499	28.4
8	612	11.6
7	238	4.5
Gender		
Male	2467	46.7
Female	2812	53.3
Region		
Urban	1438	27.2
Rural	3841	72.8
Geographical zone		
Plains	2530	47.9
Tonlesap	1667	31.6
Plateau	718	13.6
Coastal	364	6.9
Total assessed students	5279	

The assessment

- Students took two hour-long tests, each devoted to one subject. Different students were given different test questions and different combinations of subjects (e.g., mathematics followed by reading, or science followed by mathematics, etc.). Test items were a mixture of multiple-choice questions and questions requiring students to construct their own responses.
- Students also answered a background questionnaire, which took about 35 minutes to complete. The questionnaire sought information about the students themselves, their attitudes, dispositions and beliefs, their homes, and their school and learning experiences.
- School principals completed a questionnaire that covered school management and organization, and the learning environment.

- Some countries/economies also distributed additional questionnaires to students, parents and/or teachers, to elicit more information. The findings from these optional questionnaires are not covered by this country report.

IV. How are PISA results reported?

- PISA reported overall student performances in mathematics, reading, and science and their trends, using scaled scores so that student performances were placed on the same scale. This method allows for appropriate comparisons across countries that participated in PISA by taking into account the differences in student performances across countries.
- PISA also reported the proportions of students who performed at each proficiency level. PISA proficiency levels were divided into 6 levels with a level 2 considered the minimum proficiency level. Students who performed at Level 2 demonstrate the ability and initiative to use reading, mathematics and science literacies in everyday real-life situations.
- The average yearly pace of learning, equivalent to 20 score points, was also used in this national report to highlight the performance gaps among different groups of schools and students.
- In PISA report, the state of equity in education was also widely discussed. Meanwhile, factors related to schools, teachers, students and parents were also discussed to reflect on school environments and the education systems across countries.
- PISA 2022 results for Cambodia used PISA data for Cambodia for analysis and reporting along with some selected comparisons with countries in the region and the OECD average.

V. PISA proficiency levels

- In PISA 2022, the mathematics scale is divided into six proficiency levels. Proficiency Level 2 is considered the baseline level of proficiency students need to participate fully in society.

Table 3: Description of the six levels of mathematics proficiency in PISA 2022

6	Students can work through abstract problems and demonstrate creativity and flexible thinking to develop solutions. For example, they can recognise when a procedure that is not specified in a task can be applied in a non-standard context or when demonstrating a deeper understanding of a mathematical concept is necessary as part of a justification. They can link different information sources and representations, including effectively using simulations or spreadsheets as part of their solution. Students at this level are capable of critical thinking and have a mastery of symbolic and formal mathematical operations and relationships that they use to clearly
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	communicate their reasoning. They can reflect on the appropriateness of their actions with respect to their solution and the original situation.
5	Students can develop and work with models for complex situations, identifying or imposing constraints, and specifying assumptions. They can apply systematic, well-planned problem-solving strategies for dealing with more challenging tasks, such as deciding how to develop an experiment, designing an optimal procedure, or working with more complex visualisations that are not given in the task. Students demonstrate an increased ability to solve problems whose solutions often require incorporating mathematical knowledge that is not explicitly stated in the task. Students at this level reflect on their work and consider mathematical results with respect to the real -world context.
4	Students can work effectively with explicit models for complex concrete situations, sometimes involving two variables, as well as demonstrate an ability to work with undefined models that they derive using a more sophisticated computational-thinking approach. Students at this level begin to engage with aspects of critical thinking, such as evaluating the reasonableness of a result by making qualitative judgements when computations are not possible from the given information. They can select and integrate different representations of information, including symbolic or graphical, linking them directly to aspects of real-world situations. At this level, students can also construct and communicate explanations and arguments based on their interpretations, reasoning, and methodology.
3	Students can devise solution strategies, including strategies that require sequential decision-making or flexibility in understanding of familiar concepts. At this level, students begin using computational-thinking skills to develop their solution strategy. They are able to solve tasks that require performing several different but routine calculations that are not all clearly defined in the problem statement. They can use spatial visualisation as part of a solution strategy or determine how to use a simulation to gather data appropriate for the task. Students at this level can interpret and use representations based on different information sources and reason directly from them, including conditional decision-making using a two-way table. They typically show some ability to handle percentages, fractions and decimal numbers, and to work with proportional relationships.
2	Students can recognise situations where they need to design simple strategies to solve problems, including running straightforward simulations involving one variable as part of their solution strategy. They can extract relevant information from one or more sources that use slightly more complex modes of representation, such as two-way tables, charts, or two-dimensional representations of three-dimensional objects. Students at this level demonstrate a basic understanding of functional relationships and can solve problems involving simple ratios. They are capable of making literal interpretations of results.
1a	Students can answer questions involving simple contexts where all information needed is present, and the questions are clearly defined. Information may be presented in a variety of simple formats and students may need to work with two sources simultaneously to extract relevant information. They are able to carry out simple, routine procedures according to direct instructions in explicit situations, which may sometimes

	require multiple iterations of a routine procedure to solve a problem. They can perform actions that are obvious or that require very minimal synthesis of information, but in all instances the actions follow clearly from the given stimuli. Students at this level can employ basic algorithms, formulae, procedures, or conventions to solve problems that most often involve whole numbers.
1b	Students can respond to questions involving easy to understand contexts where all information needed is clearly given in a simple representation (i.e., tabular or graphic) and, as necessary, recognize when some information is extraneous and can be ignored with respect to the specific question being asked. They are able to perform simple calculations with whole numbers, which follow from clearly prescribed instructions, defined in short, syntactically simple text.
1c	Students can respond to questions involving easy to understand contexts where all relevant information is clearly given in a simple, familiar format (for example, a small table or picture) and defined in a very short, syntactically simple text. They are able to follow a clear instruction describing a single step or operation.

- The six proficiency levels used in the PISA 2022 reading assessment are the same as those established for the PISA 2018 assessment. Proficiency Level 2 is considered the baseline level of proficiency students

Table 4: Description of the six levels of reading proficiency in PISA 2022

6	<p>Students can comprehend lengthy and abstract texts in which the information of interest is deeply embedded and only indirectly related to the task. They can compare, contrast and integrate information representing multiple and potentially conflicting perspectives, using multiple criteria and generating inferences across distant pieces of information to determine how the information may be used.</p> <p>Students can reflect deeply on the text's source in relation to its content, using criteria external to the text. They can compare and contrast information across texts, identifying and resolving inter-textual discrepancies and conflicts through inferences about the sources of information, their explicit or vested interests, and other cues as to the validity of the information.</p> <p>Tasks at Level 6 typically require the reader to set up elaborate plans, combining multiple criteria and generating inferences to relate the task and the text(s). Materials at this level include one or several complex and abstract text(s), involving multiple and possibly discrepant perspectives. Target information may take the form of details that are deeply embedded within or across texts and potentially obscured by competing information.</p>
5	Students can comprehend lengthy texts, inferring which information in the text is relevant even though the information of interest may be easily overlooked. They can perform causal or other forms of reasoning based

	<p>on a deep understanding of extended pieces of text. They can also answer indirect questions by inferring the relationship between the question and one or several pieces of information distributed within or across multiple texts and sources.</p> <p>Reflective tasks require the production or critical evaluation of hypotheses, drawing on specific information. Students can establish distinctions between content and purpose, and between fact and opinion as applied to complex or abstract statements. They can assess neutrality and bias based on explicit or implicit cues pertaining to both the content and/or source of the information. They can also draw conclusions regarding the reliability of the claims or conclusions offered in a piece of text.</p> <p>For all aspects of reading, tasks at Level 5 typically involve dealing with concepts that are abstract or counterintuitive, and going through several steps until the goal is reached. In addition, tasks at this level may require the reader to handle several long texts, switching back and forth across texts in order to compare and contrast information.</p>
4	<p>At Level 4, students can comprehend extended passages in single or multiple-text settings. They interpret the meaning of nuances of language in a section of text by taking into account the text as a whole. In other interpretative tasks, students demonstrate understanding and application of ad hoc categories. They can compare perspectives and draw inferences based on multiple sources.</p> <p>Students can search, locate and integrate several pieces of embedded information in the presence of plausible distractors. They can generate inferences based on the task statement in order to assess the relevance of target information. They can handle tasks that require them to memorise prior task context.</p> <p>In addition, students at this level can evaluate the relationship between specific statements and a person's overall stance or conclusion about a topic. They can reflect on the strategies that authors use to convey their points, based on salient features of texts (e.g., titles and illustrations). They can compare and contrast claims explicitly made in several texts and assess the reliability of a source based on salient criteria. Texts at Level 4 are often long or complex, and their content or form may not be standard. Many of the tasks are situated in multiple-text settings. The texts and the tasks contain indirect or implicit cues.</p>
3	<p>Students at Level 3 can represent the literal meaning of single or multiple texts in the absence of explicit content or organisational clues. Readers can integrate content and generate both basic and more advanced inferences. They can also integrate several parts of a piece of text in order to identify the main idea, understand a relationship or construe the meaning of a word or phrase when the required information is featured on a single page.</p> <p>They can search for information based on indirect prompts, and locate target information that is not in a prominent position and/or is in the</p>

	<p>presence of distractors. In some cases, readers at this level recognise the relationship between several pieces of information based on multiple criteria.</p> <p>Level 3 students can reflect on a piece of text or a small set of texts, and compare and contrast several authors' viewpoints based on explicit information. Reflective tasks at this level may require the reader to perform comparisons, generate explanations or evaluate a feature of the text. Some reflective tasks require readers to demonstrate a detailed understanding of a piece of text dealing with a familiar topic, whereas others require a basic understanding of less-familiar content.</p> <p>Tasks at Level 3 require the reader to take many features into account when comparing, contrasting or categorising information. The required information is often not prominent or there may be a considerable amount of competing information. Texts typical of this level may include other obstacles, such as ideas that are contrary to expectation or negatively worded.</p>
2	<p>Students at Level 2 can identify the main idea in a piece of text of moderate length. They can understand relationships or construe meaning within a limited part of the text when the information is not prominent by producing basic inferences, and/or when the text(s) include some distracting information.</p> <p>They can select and access a page in a set based on explicit though sometimes complex prompts, and locate one or more pieces of information based on multiple, partly implicit criteria.</p> <p>Students at Level 2 can, when explicitly cued, reflect on the overall purpose, or on the purpose of specific details, in texts of moderate length. They can reflect on simple visual or typographical features. They can compare claims and evaluate the reasons supporting them based on short, explicit statements.</p> <p>Tasks at Level 2 may involve comparisons or contrasts based on a single feature in the text. Typical reflective tasks at this level require readers to make a comparison or several connections between the text and outside knowledge by drawing on personal experience and attitudes.</p>
1a	<p>Students at Level 1a can understand the literal meaning of sentences or short passages. Readers at this level can also recognise the main theme or the author's purpose in a piece of text about a familiar topic, and make a simple connection between several adjacent pieces of information, or between the given information and their own prior knowledge.</p> <p>They can select a relevant page from a small set based on simple prompts, and locate one or more independent pieces of information within short texts.</p> <p>Level 1a students can reflect on the overall purpose and on the relative importance of information (e.g. the main idea vs. non-essential detail) in</p>

	simple texts containing explicit cues. Most tasks at this level contain explicit cues regarding what needs to be done, how to do it, and where in the text(s) readers should focus their attention.
1b	<p>Students at Level 1b can evaluate the literal meaning of simple sentences. They can also interpret the literal meaning of texts by making simple connections between adjacent pieces of information in the question and/or the text.</p> <p>Students at this level can scan for and locate a single piece of prominently placed, explicitly stated information in a single sentence, a short text or a simple list. They can access a relevant page from a small set based on simple prompts when explicit cues are present.</p> <p>Tasks at Level 1b explicitly direct readers to consider relevant factors in the task and in the text. Texts at this level are short and typically provide support to the reader, such as through repetition of information, pictures or familiar symbols. There is minimal competing information.</p>
1c	<p>Students at Level 1c can understand and affirm the meaning of short, syntactically simple sentences on a literal level, and read for a clear and simple purpose within a limited amount of time.</p> <p>Tasks at this level involve simple vocabulary and syntactic structures.</p>

- The six proficiency levels used in the PISA 2022 science assessment were the same as those established for the PISA 2015 assessment and were used again in PISA 2018.

Table 5: Description of the six levels of science proficiency in PISA 2022

6	Students can draw on a range of interrelated scientific ideas and concepts from the physical, life, and earth and space sciences and use content, procedural and epistemic knowledge in order to offer explanatory hypotheses of novel scientific phenomena, events and processes or to make predictions. In interpreting data and evidence, they are able to discriminate between relevant and irrelevant information and can draw on knowledge external to the normal school curriculum. They can distinguish between arguments that are based on scientific evidence and theory and those based on other considerations. Level 6 students can evaluate competing designs of complex experiments, field studies or simulations and justify their choices.
5	Students can use abstract scientific ideas or concepts to explain unfamiliar and more complex phenomena, events and processes involving multiple causal links. They are able to apply more sophisticated epistemic knowledge to evaluate alternative experimental designs and justify their choices, and use theoretical knowledge to interpret information or make predictions. Level 5 students can evaluate ways of exploring a given question scientifically and identify limitations in interpretations of data sets, including sources and the effects of uncertainty in scientific data.

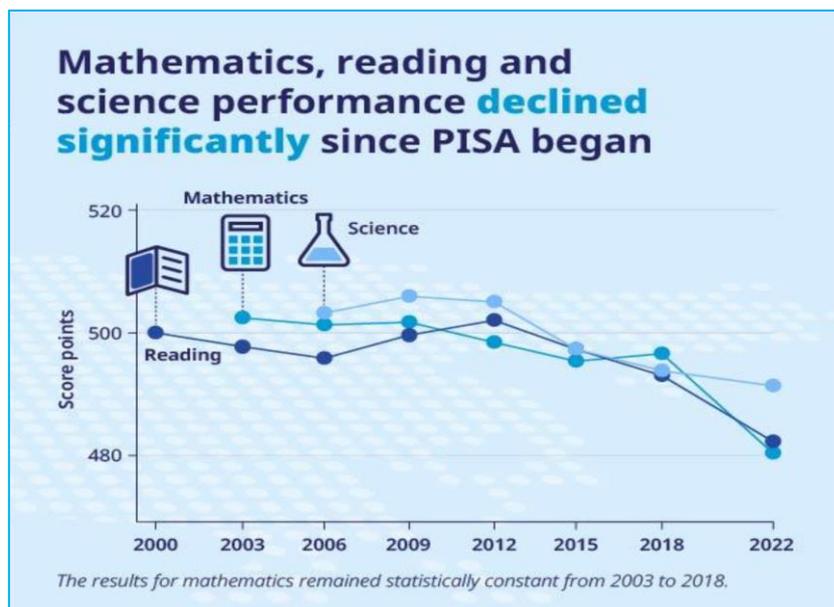
4	Students can use more complex or more abstract content knowledge, which is either provided or recalled, to construct explanations of more complex or less familiar events and processes. They can conduct experiments involving two or more independent variables in a constrained context. They are able to justify an experimental design by drawing on elements of procedural and epistemic knowledge. Level 4 students can interpret data drawn from a moderately complex data set or less familiar context, draw appropriate conclusions that go beyond the data and provide justifications for their choices.
3	Students can draw upon moderately complex content knowledge to identify or construct explanations of familiar phenomena. In less familiar or more complex situations, they can construct explanations with relevant cueing or support. They can draw on elements of procedural or epistemic knowledge to carry out a simple experiment in a constrained context. Level 3 students are able to distinguish between scientific and non-scientific issues and identify the evidence supporting a scientific claim.
2	Students are able to draw on everyday content knowledge and basic procedural knowledge to identify an appropriate scientific explanation, interpret data and identify the question being addressed in a simple experimental design. They can use basic or everyday scientific knowledge to identify a valid conclusion from a simple data set. Level 2 students demonstrate basic epistemic knowledge by being able to identify questions that can be investigated scientifically.
1a	Students are able to use basic or everyday content and procedural knowledge to recognise or identify explanations of simple scientific phenomena. With support, they can undertake structured scientific enquiries with no more than two variables. They are able to identify simple causal or correlational relationships and interpret graphical and visual data that require a low level of cognitive demand. Level 1a students can select the best scientific explanation for given data in familiar personal, local and global contexts.
1b	Students can use basic or everyday scientific knowledge to recognise aspects of familiar or simple phenomena. They are able to identify simple patterns in data, recognise basic scientific terms and follow explicit instructions to carry out a scientific procedure.

VI. Facts about PISA 2022 results

- Many education systems became more inclusive of marginalized populations over the past decade: Many countries/economies, including Cambodia, Colombia, Costa Rica, Indonesia, Morocco, Paraguay and Romania, made significant progress towards the goal of universal secondary education over the past decade. The coverage rate of 15-year-old students who participated in PISA increased in varying degrees across countries including Cambodia.
- Between 2018 and 2022, the overall performance of students in the OECD has experienced an unprecedented decline. Among them, the average mathematics score dropped by 15 points, the reading score dropped by 10 points, and the science score basically remained unchanged.

- Only four countries and economies improved their performance between PISA 2018 and 2022 in all three subjects: Brunei Darussalam, Cambodia, the Dominican Republic and Chinese Taipei.
- China did not participate nationwide in the PISA due to significant disparities between urban and rural schools. Instead, only select cities, such as Shanghai, Macau, Beijing, Jiangsu, and Hong Kong, have been involved in PISA assessments. However, for PISA 2022, data from certain Chinese cities could not be collected due to school closures.
- The overall results indicate that the average OECD scores are 472 points in mathematics, 476 points in reading, and 485 points in science. Singapore stands out as the top-performing country across all three disciplines. In mathematics, the top six countries, all from Asia, include Singapore, Macau (China), Taiwan, Hong Kong (China), Japan, and South Korea. Singapore, Ireland, Japan, South Korea, and Taiwan lead in reading. Similarly, countries from Asia continue to dominate in science.

Figure 1: Average scores of the PISA programme from 2000 to 2022



- Some 70% of students in OECD countries have achieved basic proficiency (level 2) in reading, mathematics and science. This means they are beginning to demonstrate the ability and initiative to use reading, mathematics and science literacies in everyday real-life situations.
- Boys outperformed girls in mathematics by nine score points and girls outperformed boys in reading by 24 score points on average across OECD countries. In science, the performance difference between boys and girls is not significant.
- Socio-economically advantaged students scored 93 points more in mathematics than disadvantaged students on average across OECD countries. The performance gap attributed to students' socio-economic status is greater

than 93 score points in 22 countries or economies and 50 points or fewer in 13 countries or economies.

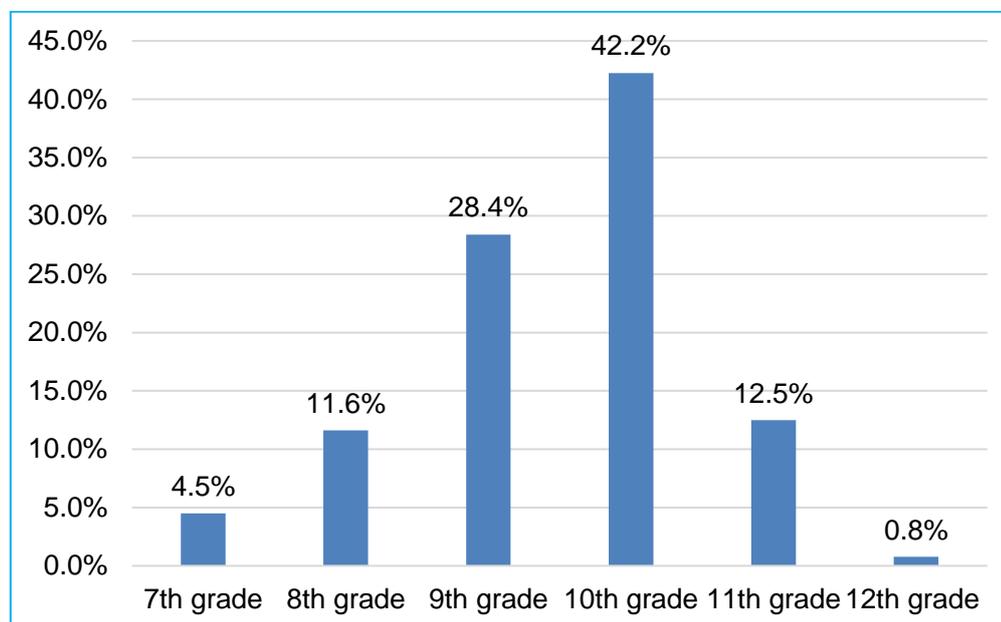
Note: This excerpt is taken from PISA 2022 international report titled “The State of Learning and Equity in Education published in 2023 by OECD

VII. What we know about 15-year-old students in Cambodia

- In Cambodia, 5279 students in 183 schools completed the assessment in mathematics, reading and science, representing about 126,589 15-year-old students (36.3% of the total population of 15-year-olds). *This indicates that some 60% of 15-year-old population are not in school or in lower grades.*
- The number of 15-year-olds eligible to sit the PISA test in Cambodia increased by 8.2% from 28.1% in 2017 to 36.3% in 2022. This suggests that secondary school enrolment increased significantly. However, this coverage rate still lags behind OECD average (89%) and ASEAN members (Thailand 74.6%, Philippines 83.3%, Malaysia 74.9%, Indonesia 84.9%, Brunei Darussalam 98%, Singapore 95.3%, and Vietnam 68.4%). *Efforts and actions to improve and retain student enrollment in secondary education is critical at this stage of education reform.*
- The proportion of 15-year-old students in Cambodia in grade 10 or above was only about 56%, which was slightly smaller than what was observed in 2017 in PISA-D (60.2%). Across OECD countries, the proportion of 15-years-old students in grade 10 or above was 63.3%, while across ASEAN countries, Thailand was 78.9%, Philippines 54.5%, Malaysia 96.9%, Indonesia 54.3%, Brunei Darussalam 93.3%, Singapore 92.7%, and Vietnam 94.2%). *Having the right age students is what successful education systems have as a precondition to achieving better results.*
- Compared to 2017, the proportion of students behind track did not change significantly. About 45% of students aged 15 in Cambodia were one or more years behind track (age-appropriate grade), particularly among boys (9.2% higher than girls), meaning that at the age 15 they were still in grades 7, 8 or 9. *This result suggests that in Cambodia 15-year-old students are still facing issues with late entry and grade repetition, the major cause that drives low learning outcomes.*
- From PISA 2022 data, it was observed that Cambodian 15-year-old students were generally characterized as disadvantaged students such as falling one or two years behind track, being from families with low socio-economic status, and from rural schools or schools with limited human and material resources. Data showed that in Cambodia 73% of 15-year-old students were from rural schools; the socio-economic index of Cambodian students was among the lowest group based on the international socio-economic index and some 29% of students in Cambodia reported that they had repeated a grade at least once (OECD average: 9%) after entering primary school especially boys. *Grade repetition*

resulted from poor learning performance from earlier grades is an indication of dropout.

Figure 2: Percentage of PISA students by grade, weighted into the population



- In Cambodia, 60% reported that they had attended pre-primary education for one year or more (OECD average: 94%). On average across OECD countries, students who had attended pre-primary education for one year or more scored higher in mathematics at the age of 15 than students who never attended or who had attended for less than one year, even after accounting for socio-economic factors.

VIII. How well did 15-year-old students in Cambodia do on the test?

Trends in mathematics, reading and science performance

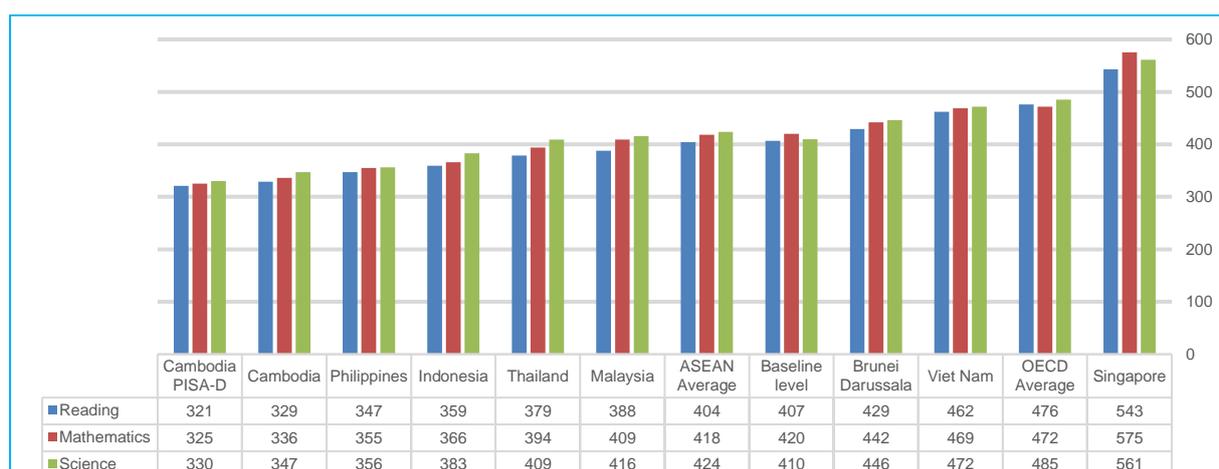
- Despite an overall decline in 2022 PISA scores across most countries, Cambodia's performance in PISA 2022 showed a notable increase. Despite the obstruction caused by COVID 19, students aged 15 in Cambodia scored slightly better in PISA 2022 than in PISA-D 2017, especially in mathematics and science. Between 2017 and 2022, reading, mathematics and science scores increased by 8, 11 and 17 score-points, respectively. To put this into perspective, between 2017 and 2022, science performance increased more than half a year of schooling.

Table 6: Cambodian student's performance between PISA-D 2017 and PISA 2022

Domain	PISA-D 2017	PISA 2022
Reading	321	329
Mathematics	325	336
Science	330	347

- However, on average students in Cambodia scored significantly less than the ASEAN average and the OECD average in all subjects, particularly less than the PISA minimum proficiency level (level 2). Students who performed at Level 2 demonstrate the ability and initiative to use reading, mathematics and science literacies in everyday real-life situations.

Figure 3: Average score on reading, mathematics and science of ASEAN countries in 2022



- On what students can do, between 2017 and 2022, in Cambodia, the proportion of students who scored at level 2 or higher did not change significantly in reading and mathematics. In reading, students at level 2 or higher increased by 0.4%, from 7.5% in 2017 to 7.9% in 2022; in mathematics, students at level 2 or higher increased by 2.1%, from 9.9% in 2017 to 12% in 2022. What is notable was that science saw an increase in students at level 2 or higher by 5.2%, from 5.2% in 2017 to 10.4% in 2022.
- 12% of Cambodian students achieved level 2 or above in mathematics which mean that they can recognize situations where they need to design simple strategies to solve problems. They can extract relevant information from one or more sources that use slightly more complex modes of representation, such as two-way tables, charts, or two-dimensional representations of three-dimensional objects. Students can demonstrate a basic understanding of

functional relationships and can solve problems involving simple ratios. They are capable of making literal interpretations of results. It is noticed that the ASEAN average (418) is within level 1a of mathematics. In this case, 38% of Cambodian students were likely to achieve a level of ASEAN average. Furthermore, 132 Cambodian students (2.5%) achieved a level of OECD average (472) or higher.

Table 7: Percentage of students in the proficiency levels in mathematics

Mathematics		
Cut-point scores	Level	Percentage
Below 233.17	Below 1c	7.6
From 233.17 to Below 295.47	1c	20.6
From 295.16 to Below 357.77	1b	33.7
From 357.77 to Below 420.07	1a	26.1
From 420.07 to Below 482.38	2	9.5
From 482.38 to Below 544.68	3	2.2
From 544.68 to Below 606.99	4	0.3
From 606.99 to Below 669.3	5	0.0
At or Above 669.3	6	0.0

- 8% of Cambodian students reached level 2 or above in reading which mean that can identify the main idea in a piece of text of moderate length. They can understand relationships or meaning within a limited part of the text when the information is not enough. They can reflect on the overall purpose, or on the purpose of specific details, in texts of moderate length. They can reflect on simple visual or typographical features. They can compare claims and evaluate the reasons supporting them based on short, explicit statements. They can make comparisons or contrasts based on a single feature in the text based on personal experience and attitudes. It is noticed that the ASEAN average (404) is within level 1a of reading. In this case 46% of Cambodian students achieved a level of ASEAN average.

Table 8: Percentage of students in the proficiency levels in reading

Reading		
Cut-point scores	Level	Percentage
Below 189.33	Below 1c	0.9
From 189.33 to Below 262.04	1c	11.0
From 262.04 to Below 334.75	1b	41.6
From 334.75 to Below 407.47	1a	38.6
From 407.47 to Below 480.18	2	7.6
From 480.18 to Below 552.89	3	0.3
From 552.89 to Below 625.61	4	0.0
From 625.61 to Below 698.32	5	0.0
At or Above 698.32	6	0.0

- About 10% of Cambodian students reached level 2 or above in science which mean that they draw on everyday content knowledge and basic procedural knowledge to identify an appropriate scientific explanation, interpret data and identify the question being addressed in a simple experimental design. They can use basic or everyday scientific knowledge to identify a valid conclusion from a simple data set. Students can demonstrate basic knowledge by being able to identify questions that can be investigated scientifically.

Table 9: Percentage of students in the proficiency levels in science

Science		
Cut-point scores	Level	Percentage
Below 185.95	Below 1c	0.1
From 185.94 to Below 260.34	1c	4.3
From 260.34 to Below 334.94	1b	35.6
From 334.94 to Below 409.54	1a	49.5
From 409.54 to Below 484.14	2	9.9
From 484.14 to Below 558.73	3	0.5
From 558.73 to Below 633.33	4	0.0
From 633.33 to Below 707.93	5	0.0
At or Above 707.93	6	0.0

- Despite the increase in the proportion of students at level 2 or higher, Cambodia's results still lagged behind the ASEAN average and the OECD average. On average, ASEAN countries had 40%-50% of students who could score at level 2 or higher; whereas, the OECD average was at some 70%.

Table 10: Percentage of students who achieved at Level 2 or higher

	Cambodia PISA-D 2017	Cambodia PISA 2022	ASEAN Average	OECD Average
Reading	7.5	7.9	44.7	73.8
Mathematics	9.9	12	42.6	68.9
Science	5.2	10.4	50.1	75.5

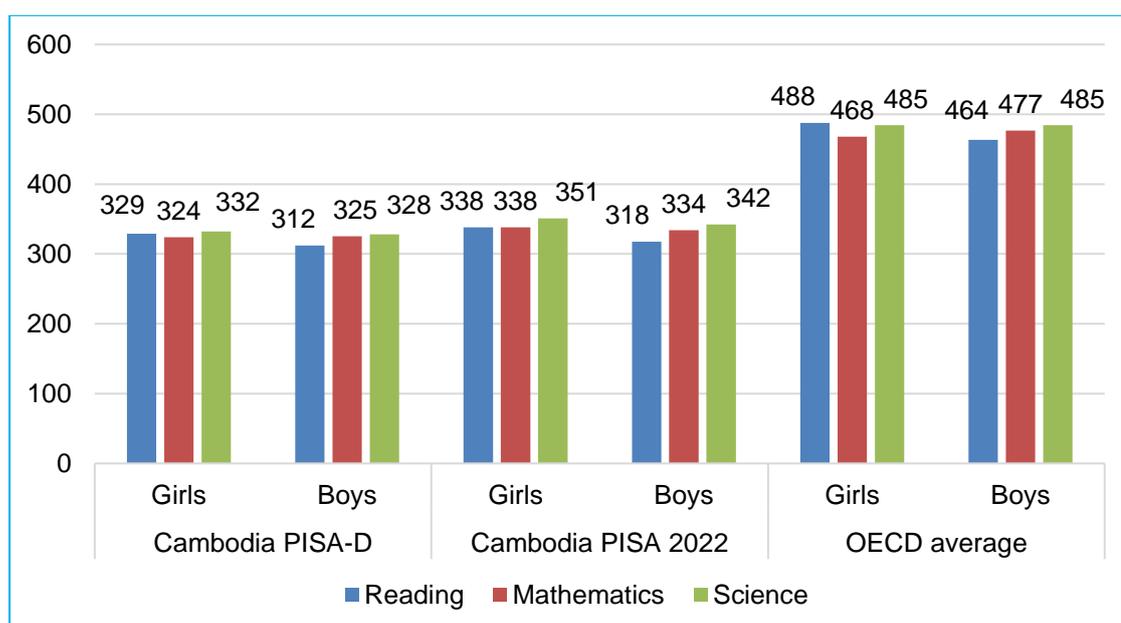
- We also saw an increase in the proportion of 15-year-old students in Cambodia who scored at level 1a by 7%, 4%, and 3% in science, reading and mathematics, respectively. Level 1a is a proficiency level closet to the level 2 that marks some learning foundations and tendency students have and will be able to move up the proficiency level once sufficient learning support is in place.

Performance gaps within Cambodia

Gender

- Boys and girls performed at similar levels on average in mathematics but girls outperformed boys in reading by 20 score points and in science by 9 score points in Cambodia. Girls, on average, scored above boys in reading in all but two countries and economies that participated in PISA 2022 (79 out of 81). In mathematics, boys outperformed girls in 40 countries and economies, girls outperformed boys in another 17 countries or economies, and no significant difference was found in the remaining 24.

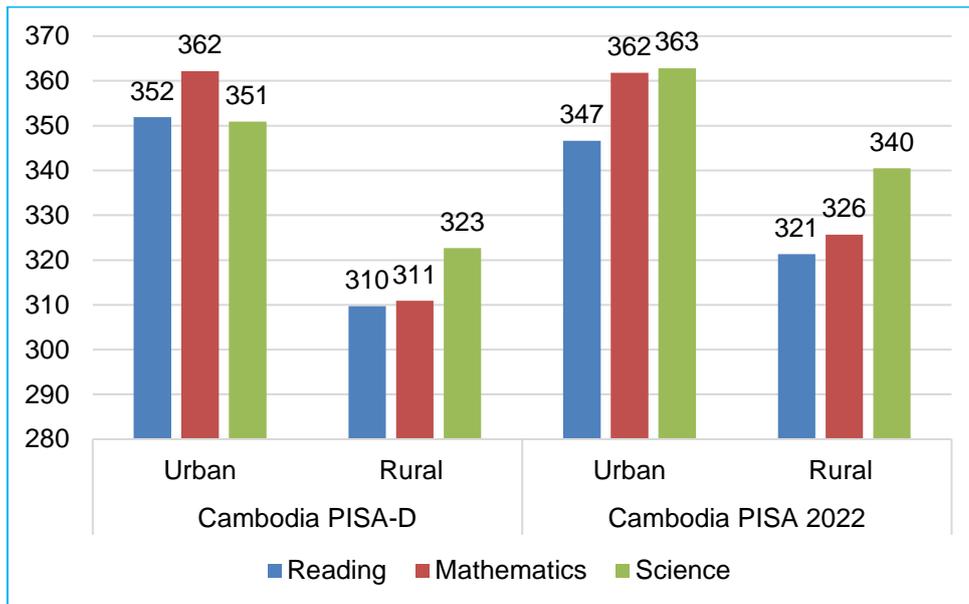
Figure 4: Performance gap between girls and boys



Region

- Students in urban schools outperformed students in rural schools in reading, mathematics and science with performance differences of 25, 36 and 22 score points, respectively, the equivalent of more than one year of schooling. In PISA-D, the gap in student performances were 42, 51 and 28 in reading, mathematics and science. The performance gap between urban and rural schools across the three domains was reduced by about 1.5 times between 2017 and 2022.

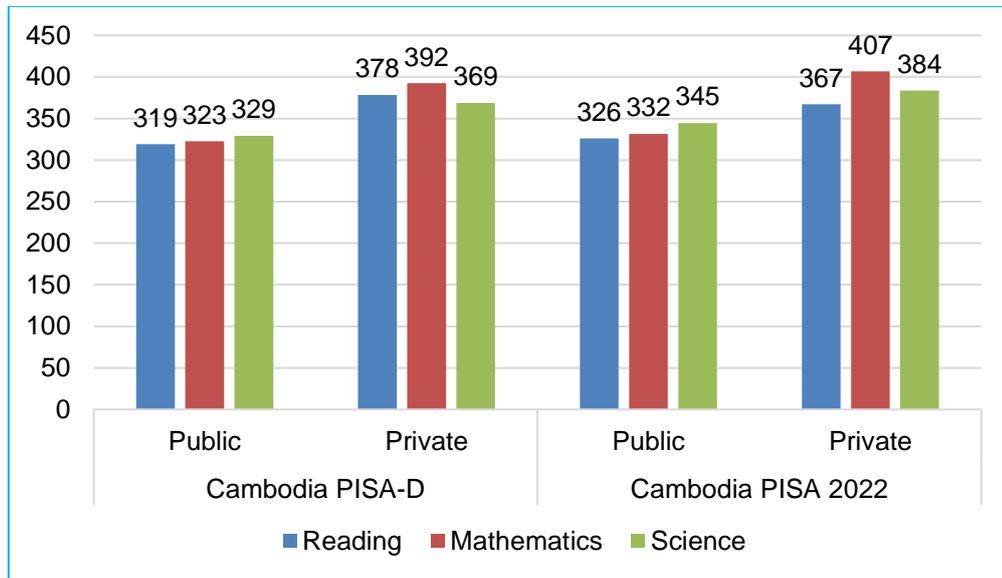
Figure 5: Performance gap between urban and rural schools



School Administration

- When comparing student performance between public and private schools, there is a gap in favor of students in private schools. The performance difference was 41, 75, and 39 score points in reading, mathematics, and science, respectively. According to the analysis of PISA scores across all PISA cycles, this gap suggests that students in private schools are about two or more years of schooling ahead of their peers in public schools, particularly in mathematics.
- The gap in student performance in reading between public and private schools was reduced by 18 scores from 59 scores to 41 scores. However, the gap in student performance in mathematics increased by 6 from 69 to 75. There was almost no change in the gap in student performance in science. However, on average students in private schools have not achieved the level 2. This result indicates that both public and private schools need further improvement in curriculum reform and implementation and the quality of teaching and learning to match with the globally anticipated standard for 15-year-old students as defined in PISA competency framework.

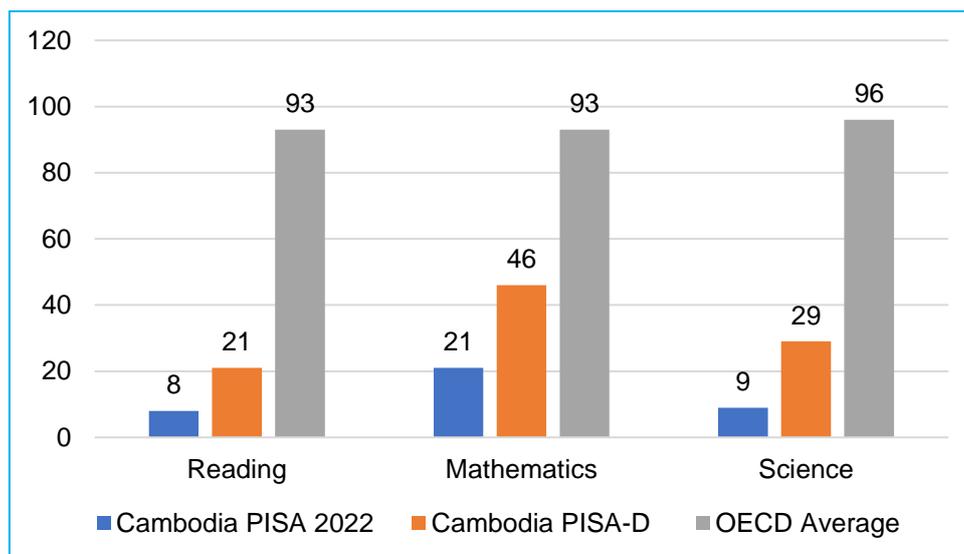
Figure 6: Performance gap between public and private schools



Socio-Economic Status

- In OECD countries, students with advantaged backgrounds tended to significantly perform better than those with disadvantaged backgrounds. In Cambodia, the performance gaps among students with different socioeconomic backgrounds were significantly smaller compared to what was observed in PISA-D and the OECD average.

Figure 7: Performance gaps between students from lowest and highest quarters of socio-economic status



- In Cambodia, socio-economically advantaged students (the top 25% in terms of socio-economic status) outperformed disadvantaged students (the bottom 25% in terms of socio-economic status) by 21 score points in mathematics. This gap is smaller than the average difference between the two groups across OECD countries (93 score points). The performance gap was smaller in reading and science. Between PISA-D and PISA 2022, the performance gaps between socio-economically advantaged students and disadvantaged students reduced.

Table 11: Performance gap between students from lowest and highest quarters of socio-economic index

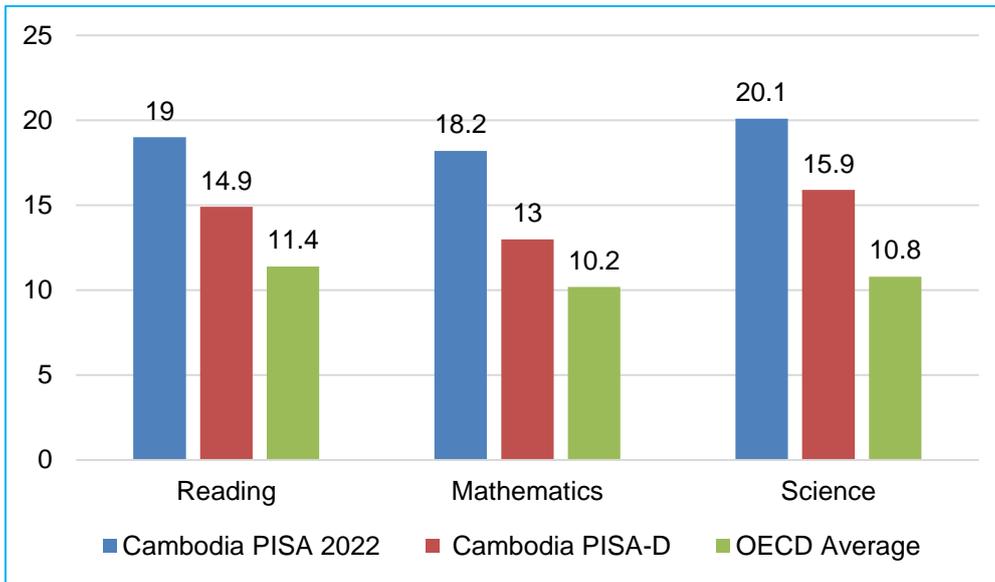
Score Difference	Cambodia PISA 2022	PISA-D Cambodia	OECD Average
Reading	8	21	93
Mathematics	21	46	93
Science	9	29	96

- On what students can do in reading, mathematics and science, in Cambodia, the gap is relatively large. Students with advantaged socio-economic backgrounds (the top 25% in terms of socio-economic status) were about 3 to 4 times more likely than their peers with disadvantaged socio-economic backgrounds (the bottom 25% in terms of socio-economic status) to achieve the proficiency level at level 2 or above in all the three subjects.

Resilient students in Cambodia

- Some 18% of disadvantaged students in Cambodia were able to score in the top quarter of mathematics, reading and science performance. These students can be considered resilient because, despite their socio-economic disadvantage, they have attained educational excellence by comparison with students in their own country. The percentage of resilient students in Cambodia increased at about 5% between 2017 and 2022. Uzbekistan, Cambodia and Kosovo have the highest shares of academically resilient students.
- On average across OECD countries, some 10% of disadvantaged students scored in the top quarter of mathematics, reading and science performance in their own countries in PISA 2022.

Figure 8: Proportion of academically resilient students in Cambodia

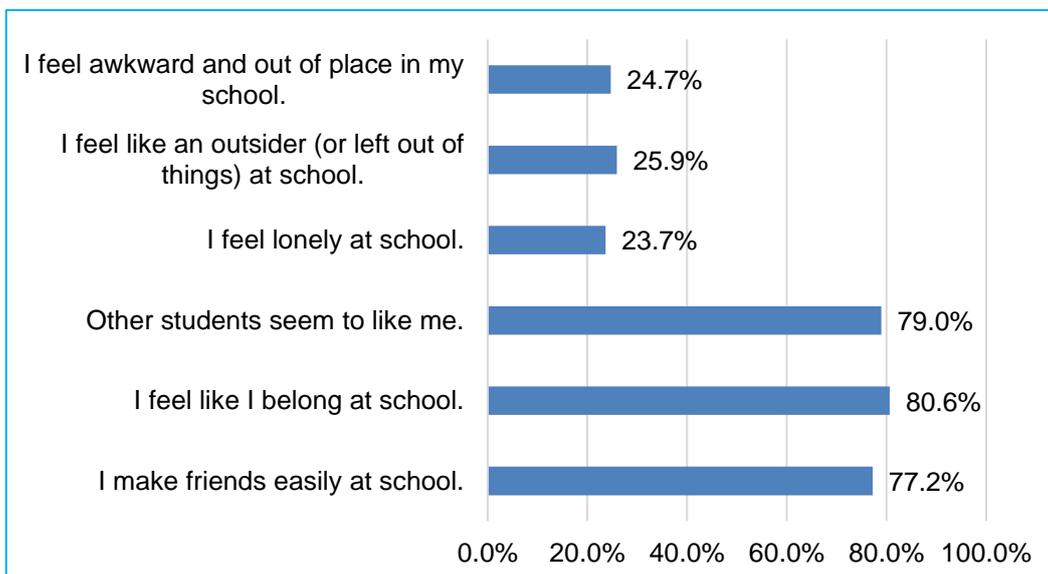


IX. How is school life and school environment in Cambodia?

Students' sense of belonging at school

- In Cambodia, 77% of students in Cambodia reported that they make friends easily at school (OECD average: 76%) and 81% felt that they belong at school (OECD average: 75%). Meanwhile, 24% reported feeling lonely at school, and 26% like an outsider or left out of things at school (OECD average: 17% and 16%). Compared to 2017, students' sense of belonging at school declined in Cambodia.

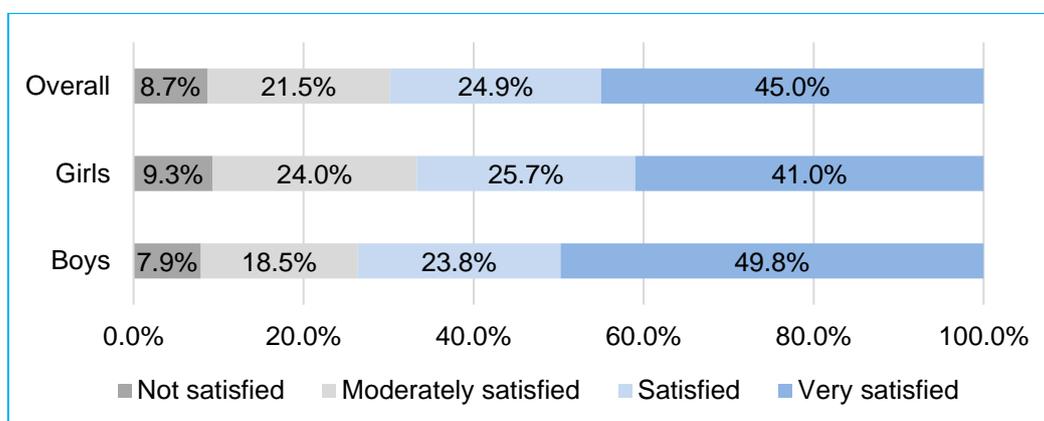
Figure 9: Percentage of students who disagreed or strongly disagreed with the following statements



Students' satisfaction with life

- Students' satisfaction with life, more generally, declined in many countries and economies over recent years. Between 2017 and 2022, the rating of students' life satisfaction in Cambodia also declined from 8.4 to 7.6 on a 10-point scale.
- In 2022, 9% of students in Cambodia reported that they were not satisfied with their lives: they rated their satisfaction with life between 0 and 4 on a scale ranging from 0 to 10; boys were more likely than girls to report high levels of life satisfaction. On average across OECD countries, the proportion of students who are not satisfied with life increased from 11% in 2015 to 16% in 2017 and 18% in 2022.

Figure 10: Gender difference in life satisfaction



Feeling safe at and around school

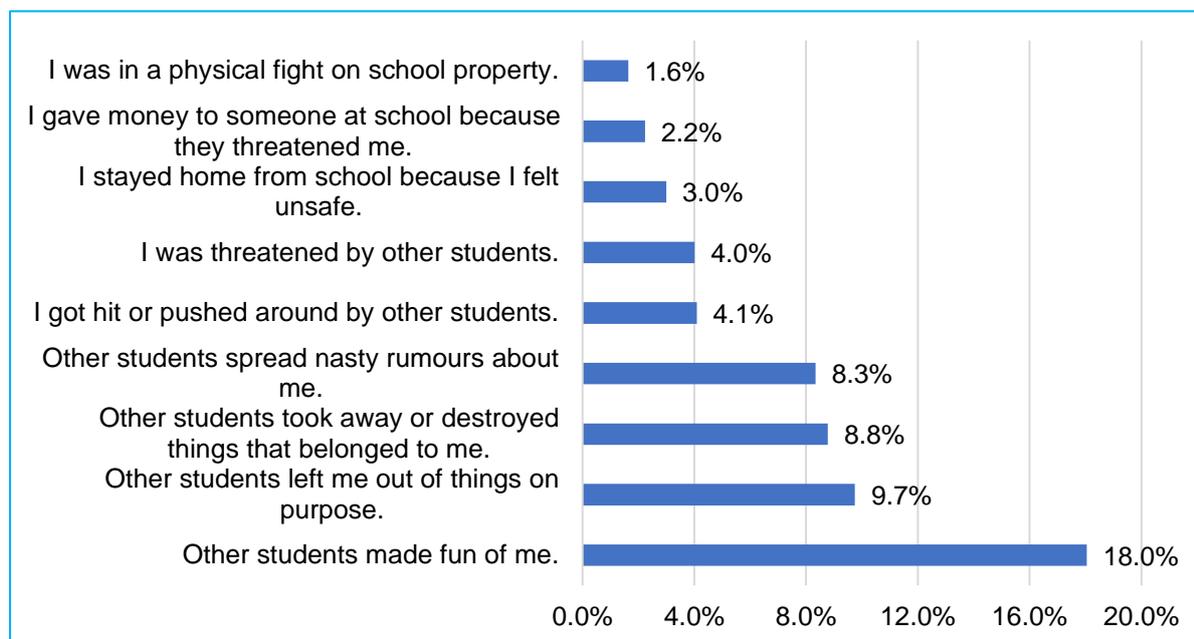
- PISA 2022 data show that in education systems where performance remained high and students' sense of belonging improved, students tended to feel safer and less exposed to risks and bullying and other risks at their school.
- In Cambodia, 17% of students reported not feeling safe on their way to school (OECD average: 8%); 7% of students reported not feeling safe in their classrooms at school (OECD average: 7%); 17% of students reported not feeling safe at other places at school (e.g. hallway, cafeteria, restroom) (OECD average: 10%).

Bullying experience

- In Cambodia, 18% of students reported that other students made fun of them (verbal bullying); 10% of students reported that other students left them out of things on purpose (relational bullying); 9% of students reported that other students took away or destroyed things that belong to them (extortion bullying); 8% of students reported that other students spread nasty rumors about them" (relational bullying). Regarding gender in Cambodia, some 26% of girls and

28% of boys reported being the victims of bullying acts at least a few times a month (OECD average: 20% of girls and 21% of boys).

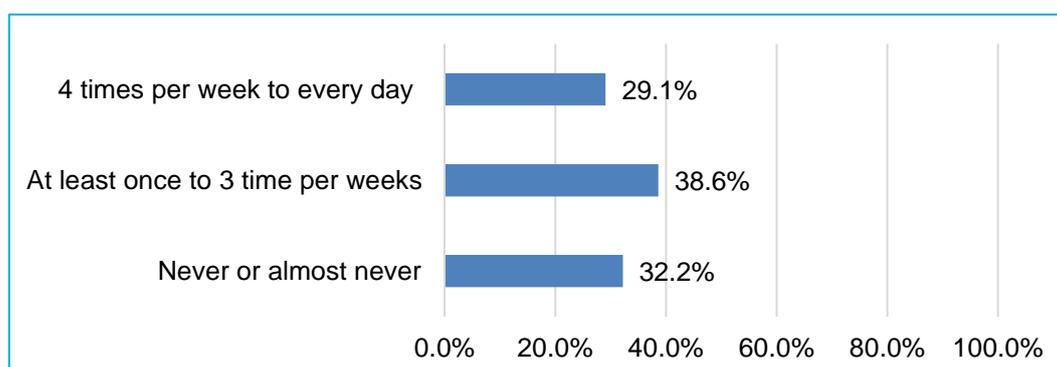
Figure 11: Percentage of students reported that they had the following experience at a few times a month



Food security

- 32% of Cambodian students reported they had no problem in eating during the last 30 days because they do not have money to buy food when they come to school. About 39% of Cambodian students did not eat once or three times a week because they did not have money to buy food when they came to school. About 29% of Cambodian students did not eat almost every day when they came to school. On average across OECD countries, 8.2% of students reported that they had not eaten at least once a week in the previous 30 days because there was not enough money to buy food.

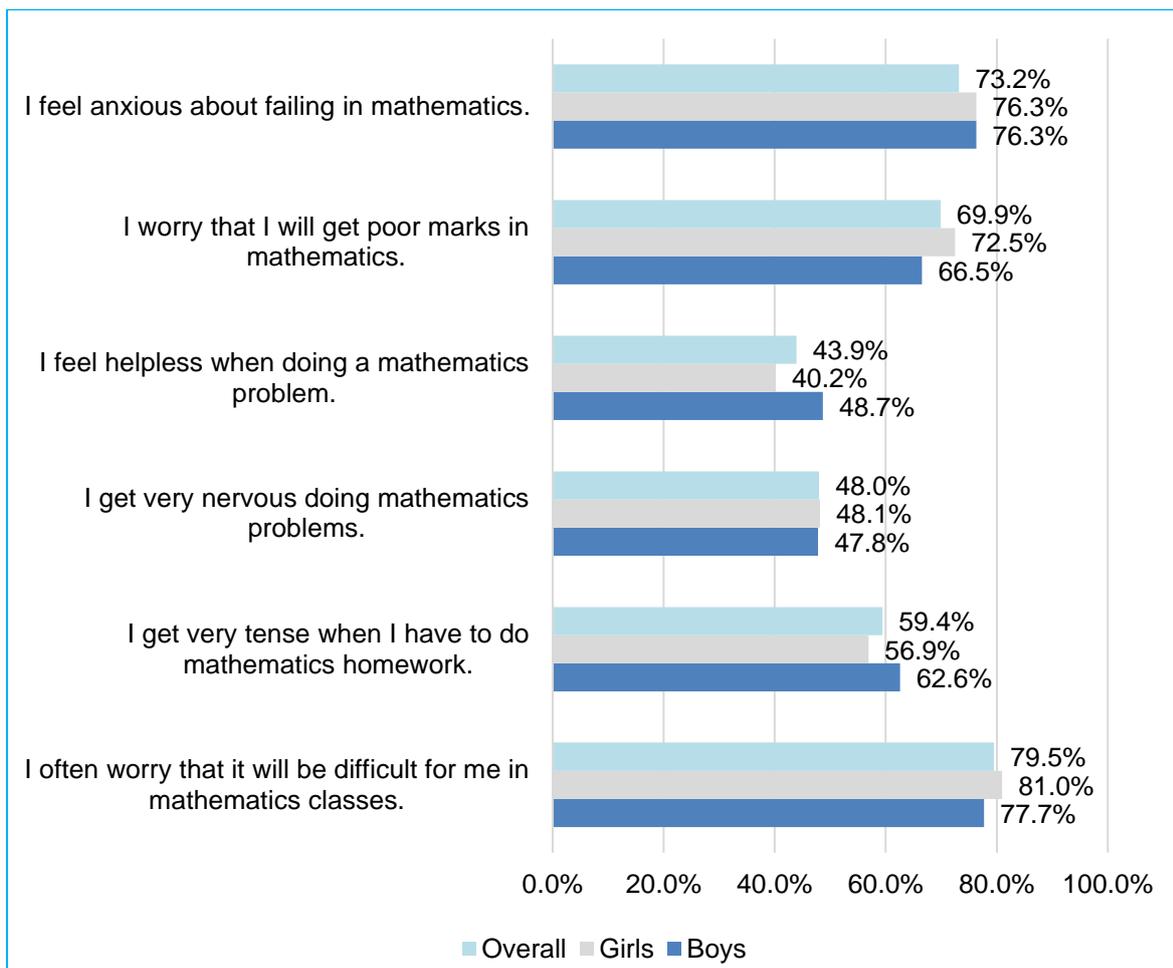
Figure 12: Percentage of students who reported that they did eat because they did not have enough money to buy food



Mathematics anxiety

- In Cambodia, 80% of 15-year-old students reported that they often worry that it will be difficult for them in mathematics classes and 73% of students reported that they feel anxious about failing in mathematics. Similarly, 70% of students reported that they worry about getting poor marks in mathematics. Boys get very tense when they have to do mathematics homework and feel helpless when doing a mathematics problem rather than girls. This high level of anxiety tended to affect student performance in many countries and economies.

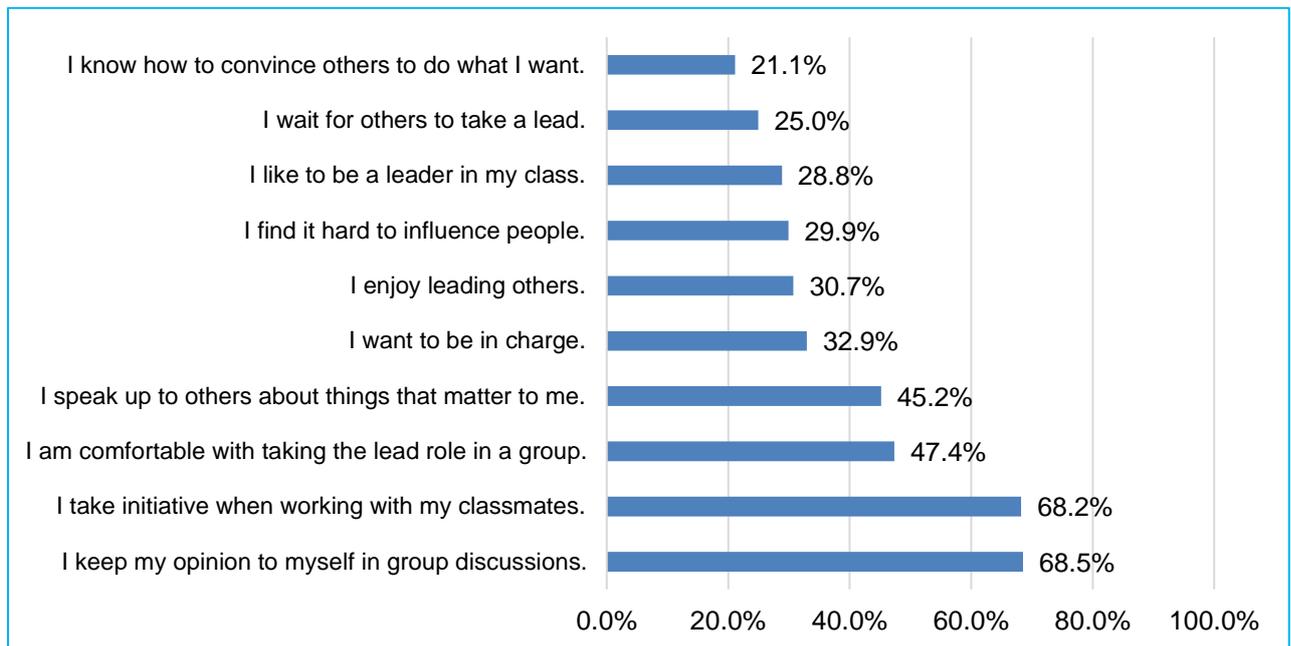
Figure 13: Percentage of students who agreed or strongly agreed with the following statements



Students' assertiveness and emotional control

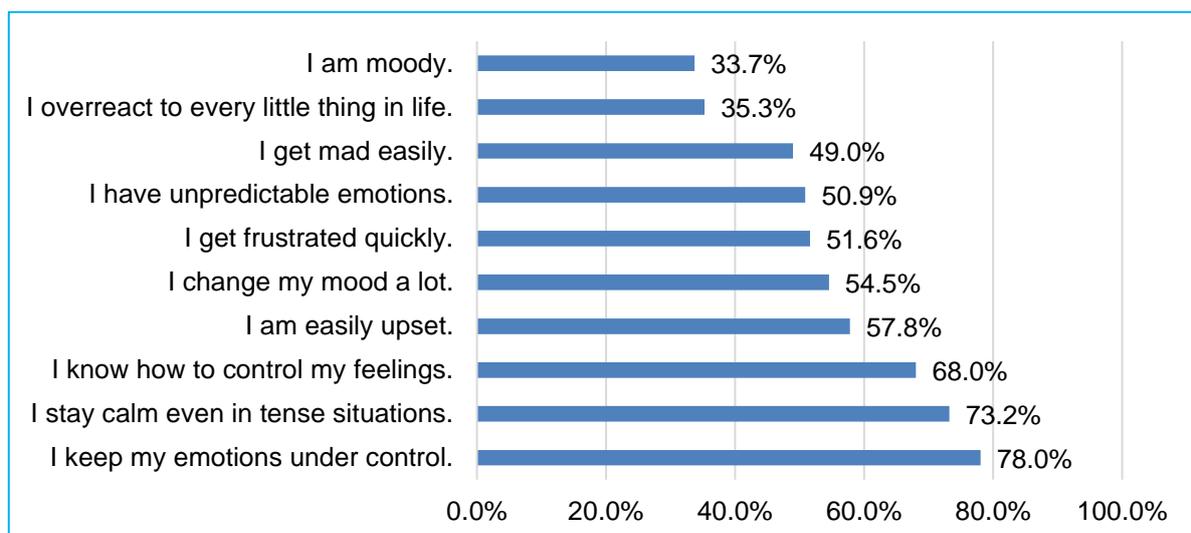
- Assertiveness:** In Cambodia, around 68% of students reported that they took initiative when working with their classmates and kept their opinions to themselves in group discussions. However, around 21% to 33% of students reported that they knew how to convince others to do something, waited for others to take a lead, liked to be a leader in the class, found it hard to influence people, enjoyed leading others, and wanted to be in charge.

Figure 14: Percentage of students who agreed or strongly agreed with the following statements related to assertiveness



- Emotional Control:** In Cambodia, around 49% to 58% of students reported that they got mad easily, had unpredictable emotions, got frustrated quickly, changed their mood a lot, and were easily upset. Moreover, around 68% to 78% of students knew how to control their feelings, stayed calm even in tense situations, and kept their emotions under control.

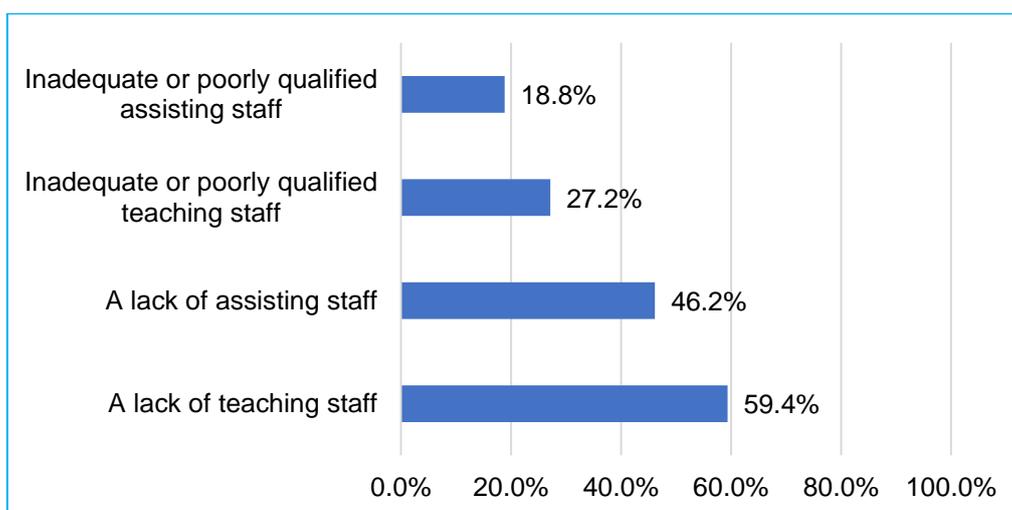
Figure 15: Percentage of students who agreed or strongly agreed with the following statements related to emotional control



Human, material, and instructional resources

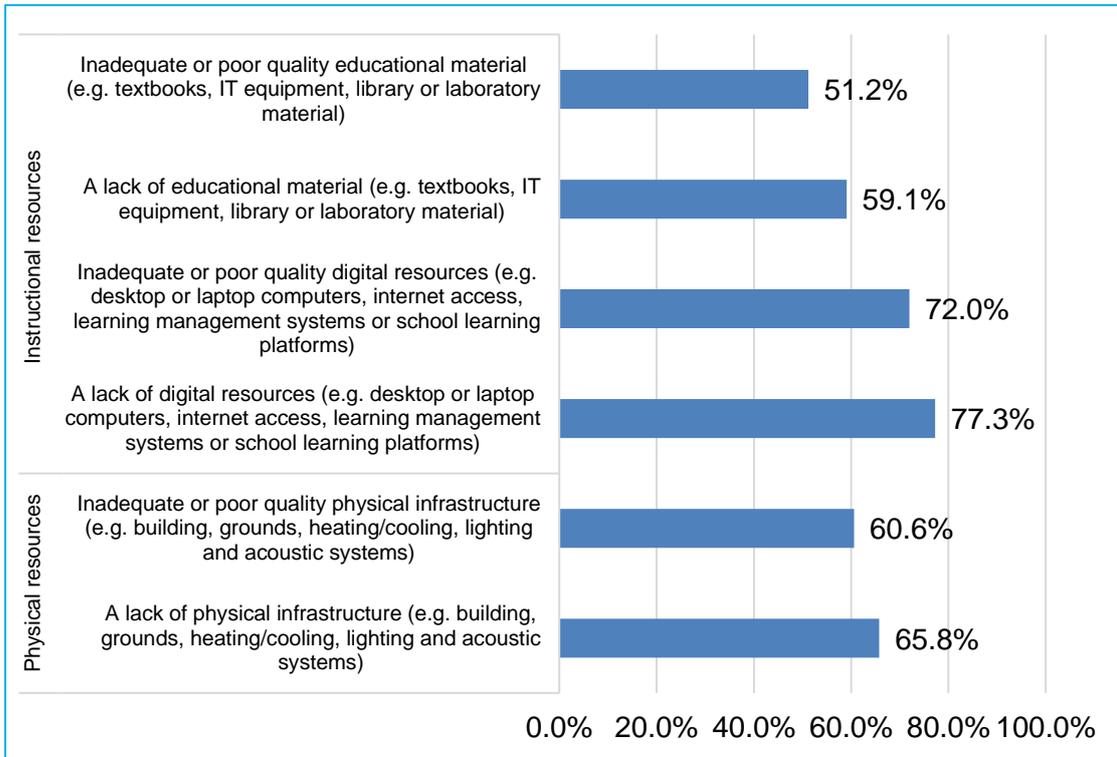
- **Class size:** In Cambodia, on average, the class size was 43, while in PISA-D it was 45. The large class size in Cambodia was more commonly observed in public schools (44 students) than in private schools (28 students). The class size difference was, however, not found between urban and rural schools.
- **Student-teacher ratio:** In Cambodia, the average students attended a school where there were 24 students for every teacher and this ratio decreased compared to PISA-D (30 students). A higher ratio was more likely found in public and rural schools.
- **Shortage of teaching staff:** In Cambodia, 59.4% of students were in schools whose principals reported that there was a lack of teaching staff (OECD average: 46.7%). Moreover, 27.2% of students were in schools whose principals reported that there was inadequate or poorly qualified teaching staff (OECD average: 25.4%).

Figure 16: Percentage of students in schools whose principals reported that the school's capacity to provide instruction was hindered by any of the following issues to some extent or a lot



- **Shortage of educational material and physical infrastructure:** In Cambodia, 77.3% of students were in schools whose principals reported that the school's capacity to provide instruction was hindered by a lack of digital resources (OECD average: 23.9%). On the other hand, 72.0% of students were in schools whose principals reported that the school's capacity to provide instruction was hindered by inadequate or poor-quality digital resources (OECD average: 24.6%). Moreover, around 60% of students were in schools whose principals reported that schools have a lack of educational material. Similarly, 66% of students were in schools whose principals reported that schools have a lack of physical infrastructure.

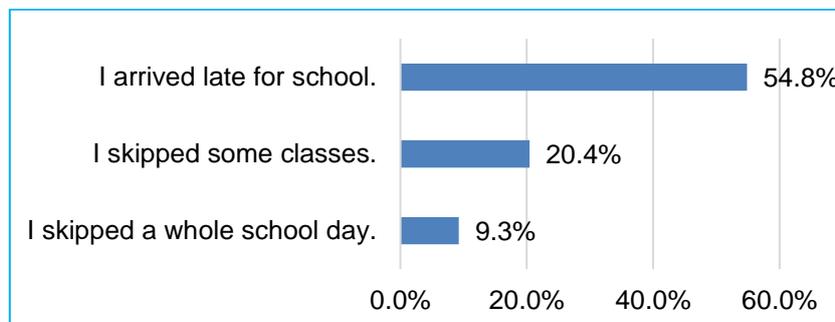
Figure 17: Percentage of students whose principals reported that the school's capacity to provide instruction was hindered by any of the following issues to some extent or a lot



Loss of learning time

- In Cambodia, 9.3% of students reported that they had skipped at least one day of school in the two weeks prior to the PISA test, 20.4% of students reported that they had skipped a class at least once, and 55% reported that they had arrived late for school at least once.

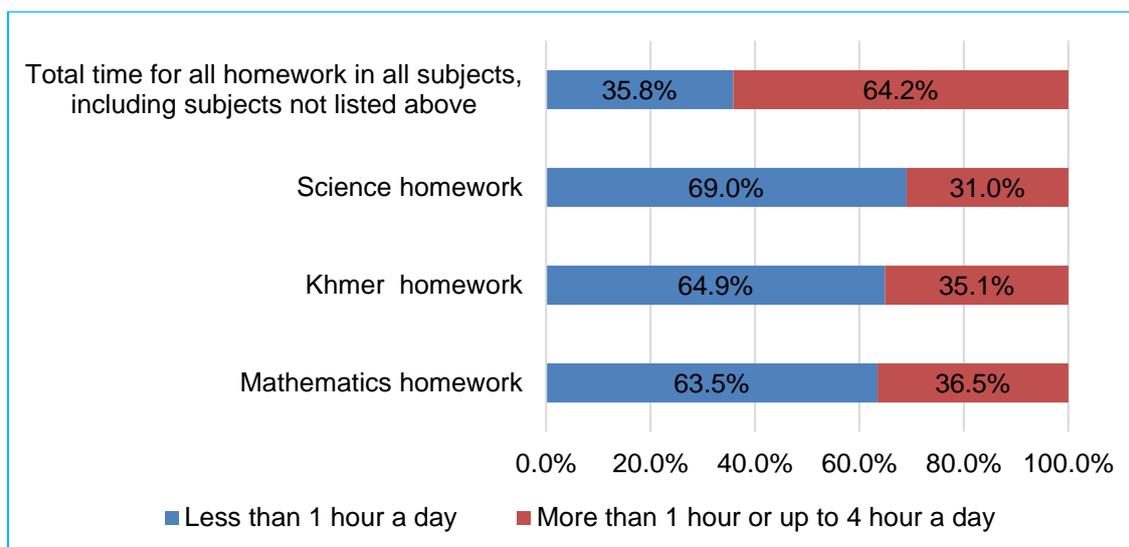
Figure 18: Percentage of students reporting the occurred at least one in the two weeks prior to the PISA test



Homework

- In Cambodia, 36.5% of students reported that they did mathematics homework for more than 1 hour or up to 4 hours a day. On the other hand, 35% and 31% of students reported that they did Khmer and science homework for more than 1 hour or up to 4 hours a day, respectively.

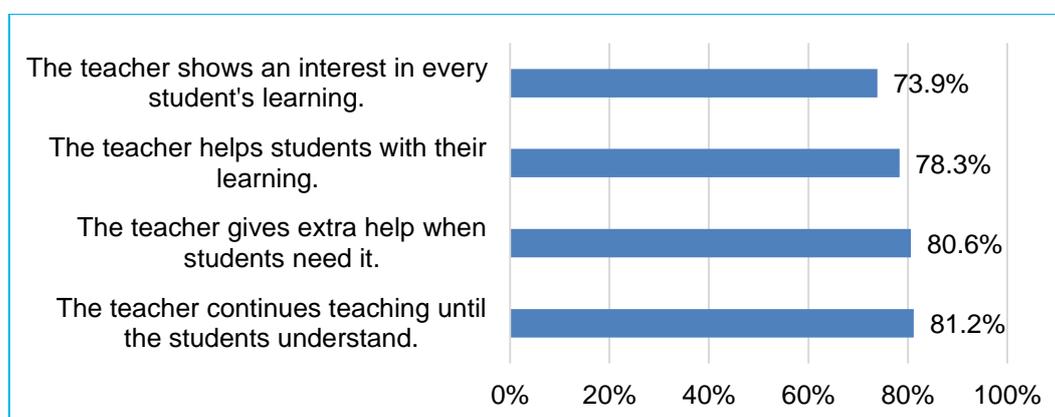
Figure 19: Percentage of students who reported that they did the homework of the following subjects in a typical school week



Support and discipline in mathematics lessons

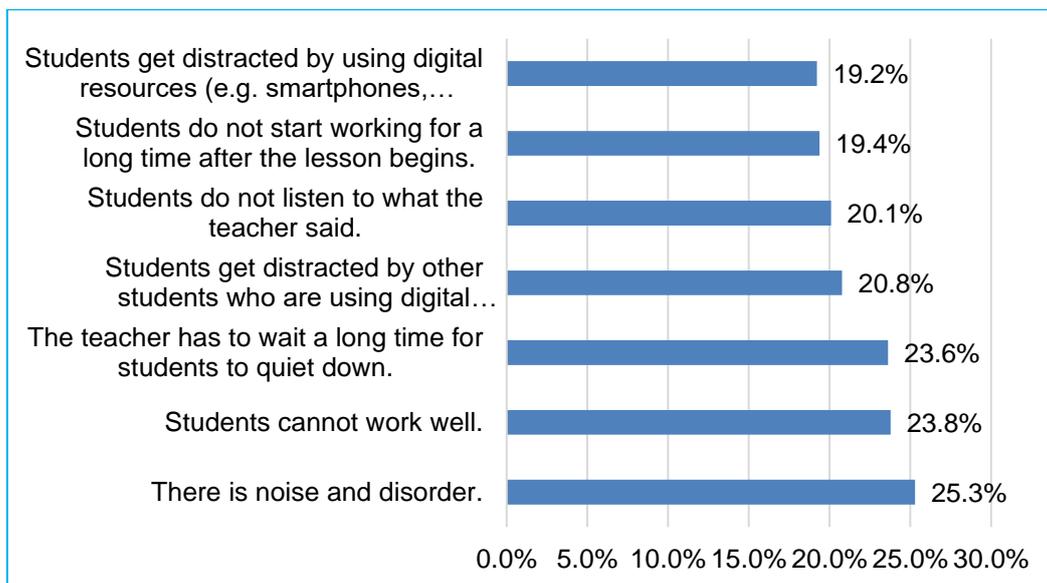
- In Cambodia, 74% of students reported that, in most mathematics lessons, the teacher showed an interest in every student's learning (OECD average: 63%), and 81% that the teacher provided extra help when students needed it (OECD average: 70%).

Figure 20: Percentage of students who reported that the following activities happened in their mathematics class in most lessons or every lesson



- Many students study mathematics in a disciplinary climate that is not favorable to learning: in 2022, about 24% of students in Cambodia reported that they could not work well in most or all lessons (OECD average: 23%); 20% of students did not listen to what the teacher says (OECD average: 30%); 19% of students got distracted by the use of digital devices (OECD average: 30%); and 21% got distracted by other students who were using digital devices (OECD average: 25%). On average across OECD countries, students were less likely to report getting distracted using digital devices when the use of cell phones on school premises was banned.

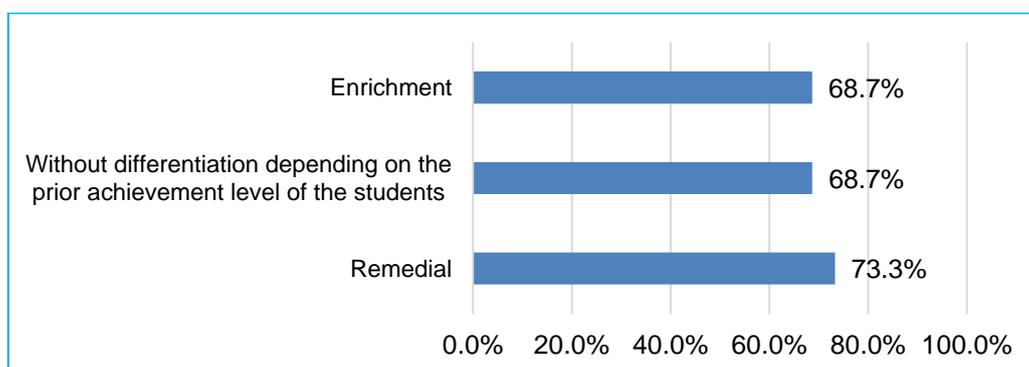
Figure 21: Percentage of students reporting that following thing happen in "every lesson" or "most lesson"



Mathematics extension courses offered at school

- In Cambodia, 73% and 69% of students were in schools whose principals offered remedial and enrichment courses for low-performance students.

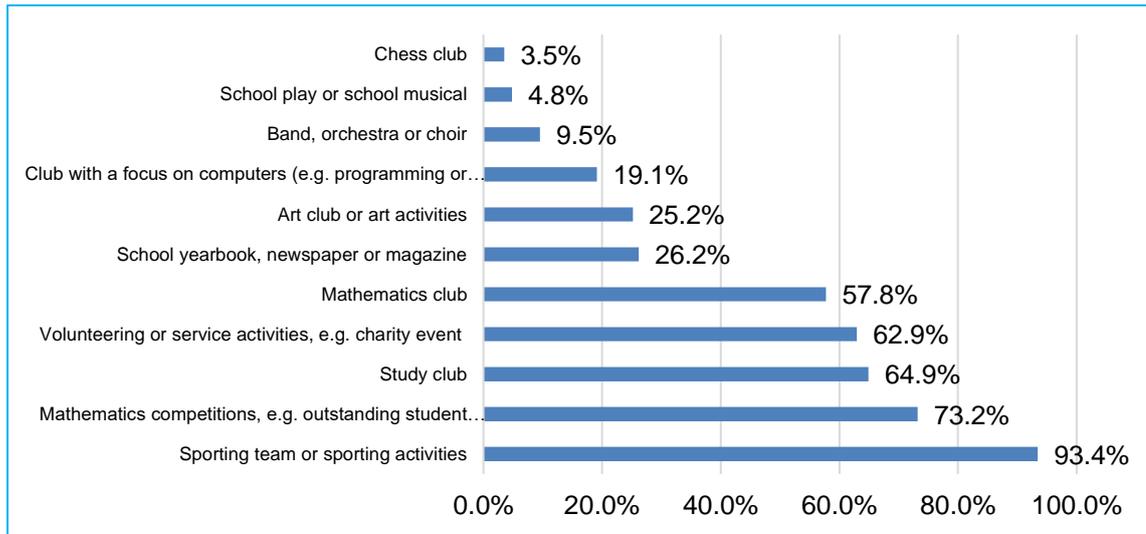
Figure 22: Percentage of students in schools whose principals offered mathematics extension courses at school



Extra-curricular activities at school

- In Cambodia, 93% and 73% of students were in school whose principals offered the sporting activity and mathematics competition. Moreover, 65% and 58% of students reported that schools offered study clubs and mathematics competition, respectively. In contrast, less than 9% of students reported that schools offered activities related to art.

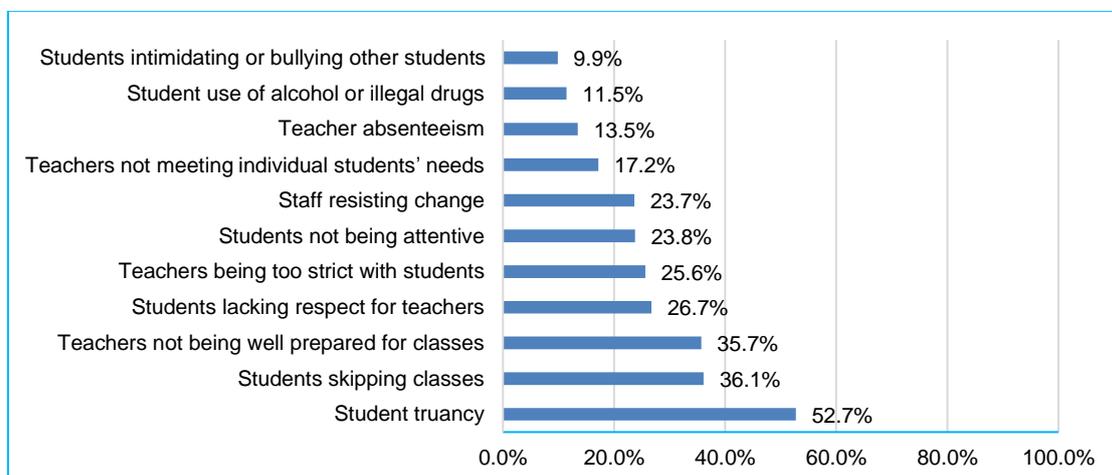
Figure 23: Percentage of students in schools whose principals offered the following activities



Factors hindering learning

- 53% of students whose principals reported that the learning of students was hindered by student truancy to some extent or a lot. Moreover, around 36% of students whose principals reported that the learning of students was hindered by students' skipping class and teachers who were not well prepared for classes.

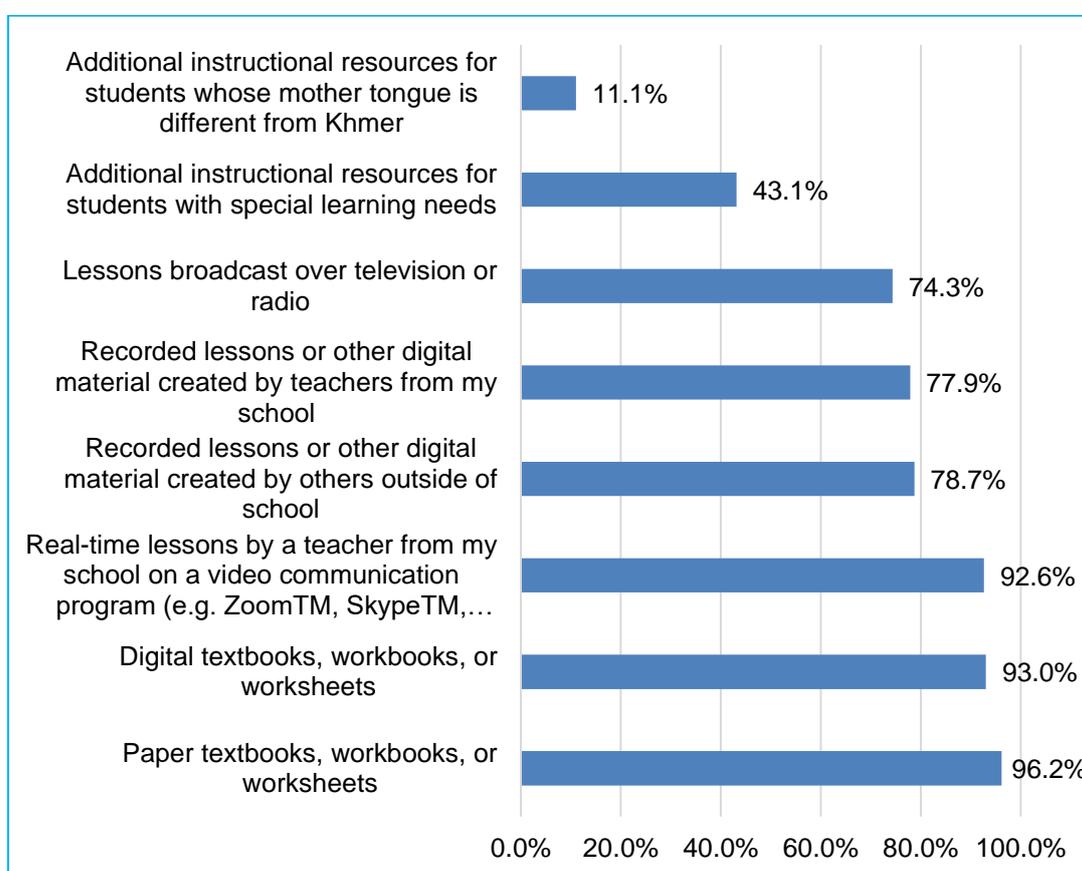
Figure 24: Percentage of students whose principals reported that the learning of students was hindered by the following phenomena to some extent or a lot



School closure resources

- In Cambodia, when your school building was closed because of COVID-19, schools provided paper and digital textbooks, workbooks or worksheets, and real-time lessons, as reported by more than 92% of students. Furthermore, around 74% to 79% of students were in schools whose principals reported that the school provided lessons from television, recorded lessons created by teachers from their school, or teachers from other schools.

Figure 25: Percentage of students in schools whose principals reported that school made the following resources available to students to support their learning, during the time when your school building was closed because of COVID-19

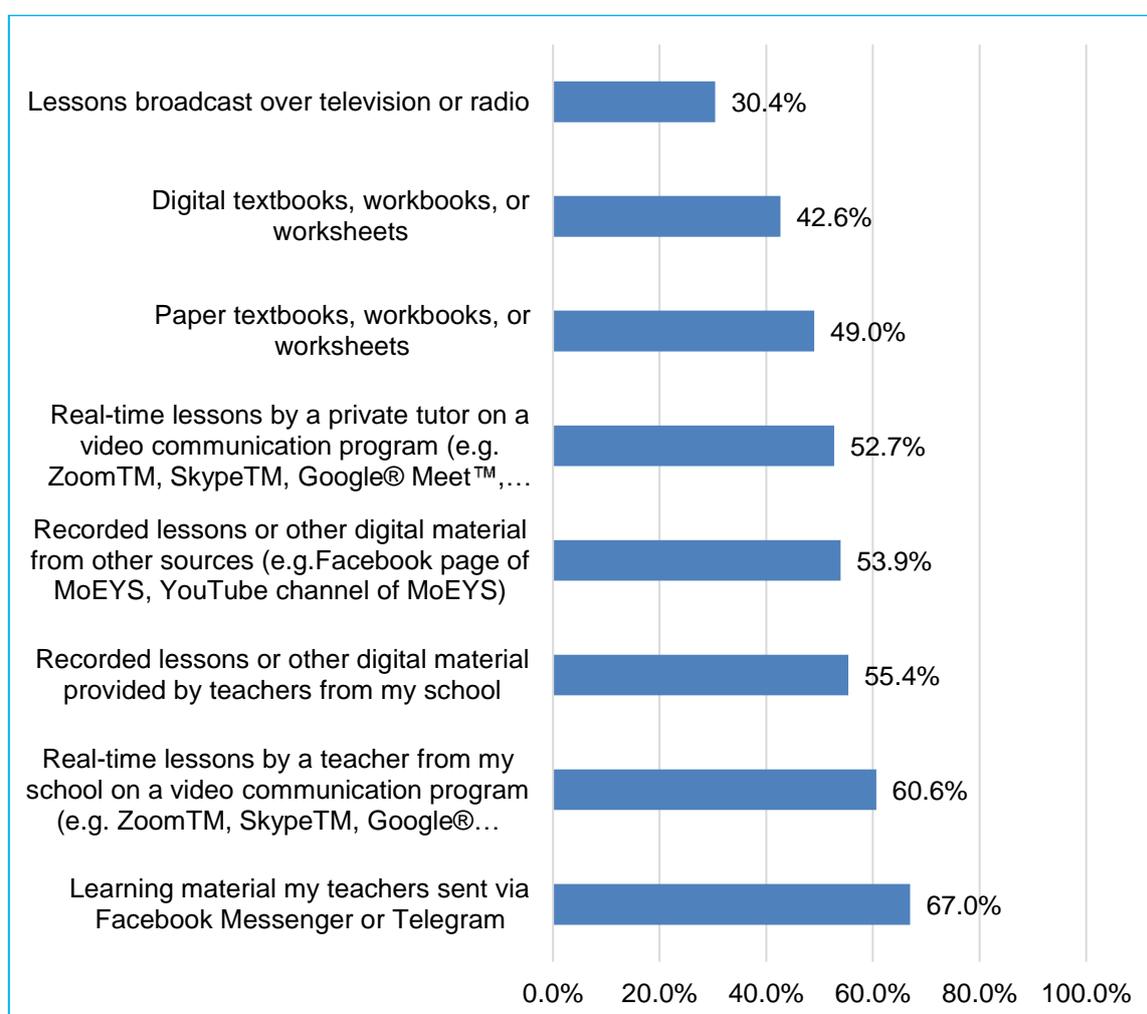


Learning during COVID-related school closures

- In Cambodia, 67% of students used learning material from teachers sent via Facebook messenger or telegram several times a month or more often during school closure because of COVID-19. 61% of students reported that real-time lessons were provided by teachers through video communication programmes such as Zoom, Google Meet, and Microsoft Team. Moreover, 54% of students watched the recorded lessons broadcasted by the Facebook page of MoEYS, and the YouTube channel of MoEYS. The paper-based learning materials like

textbooks, workbooks, and worksheets were used by 49 % of students during school closure.

Figure 26: Percentage of students reported that they used the following learning resources several times a month or more often, during the time when your school building was closed because of COVID-19



- Support for students' well-being was often limited when their schools were closed. In Cambodia, 43% of students reported that they were supported daily through live virtual classes on a video communication programme. Only 28% of students reported that they were asked daily, by someone from the school, how they were feeling (OECD averages: 51% and 13%).

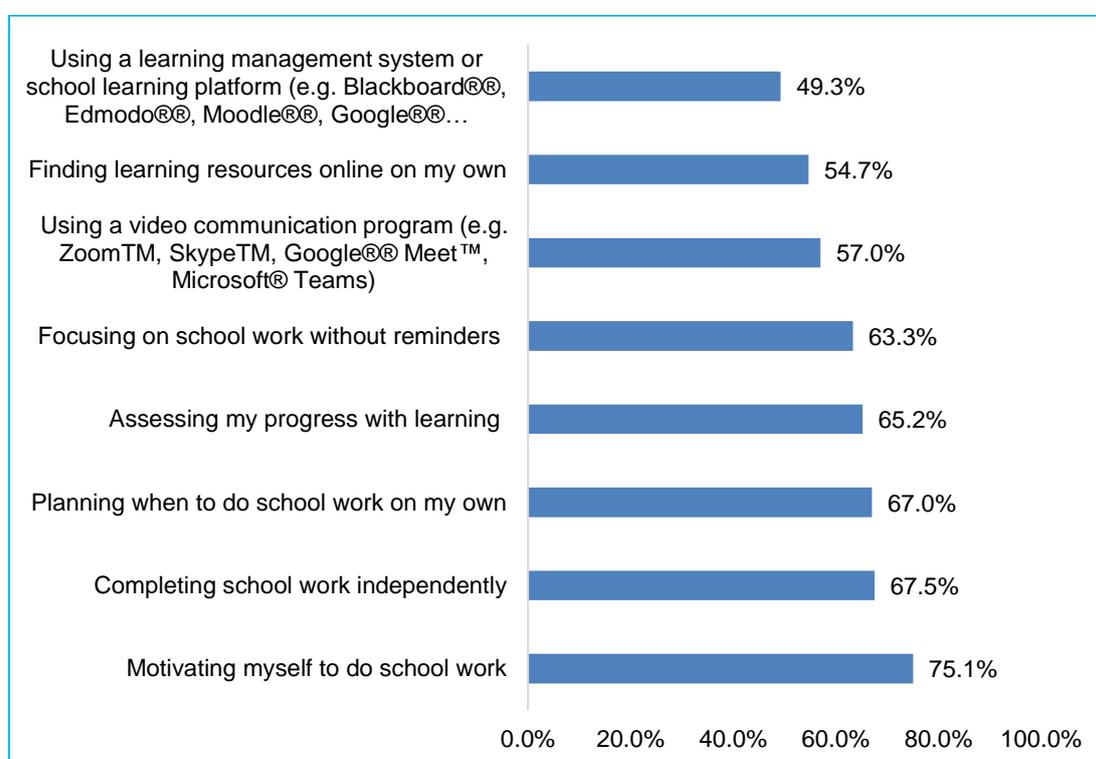
Self-directed learning and self-efficacy

- If school buildings have to close again in the future, many students across the OECD feel confident about using digital technology for learning remotely but only fewer students feel confident about taking responsibility for their own

learning. Some 57% of students in Cambodia felt confident or very confident about using a video communication programme and 75% of students felt confident or very confident about motivating themselves to do school work (OECD averages: 77% and 58%).

- Around 65% of students felt confident in completing school work independently, planning when to do school work on their own, assessing their progress with learning, and focusing on school work without reminders, if the school building closes again in the future. Likewise, around 55% of students felt confident in using video communication programmes, finding online learning resources, and using learning management systems (e.g., Google Classroom).

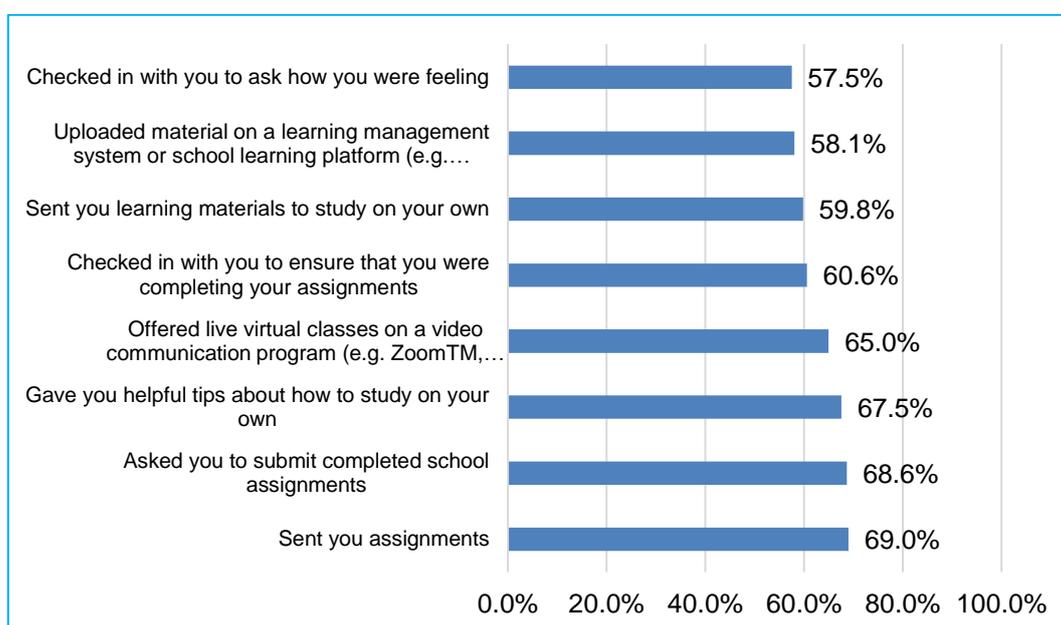
Figure 27: Percentage of students reported that they feel confident or very confident about doing the following things if the school building closes again in the future



School actions/activities to sustain learning

- During school closure, 65% to 69 % of students reported that someone from their school sent them assignments, asked them for assignment submission, gave helpful tips on how to study, and offered live virtual classes on a video communication programme. Similarly, around 60% of students reported that someone in school checked to ensure for completed assignments, uploaded materials on a learning management system, and checked in with them on how they were feeling.

Figure 28: Percentage of students reported that someone from your school did the following things several times a month or more often, during the time when your school building was closed because of COVID-19

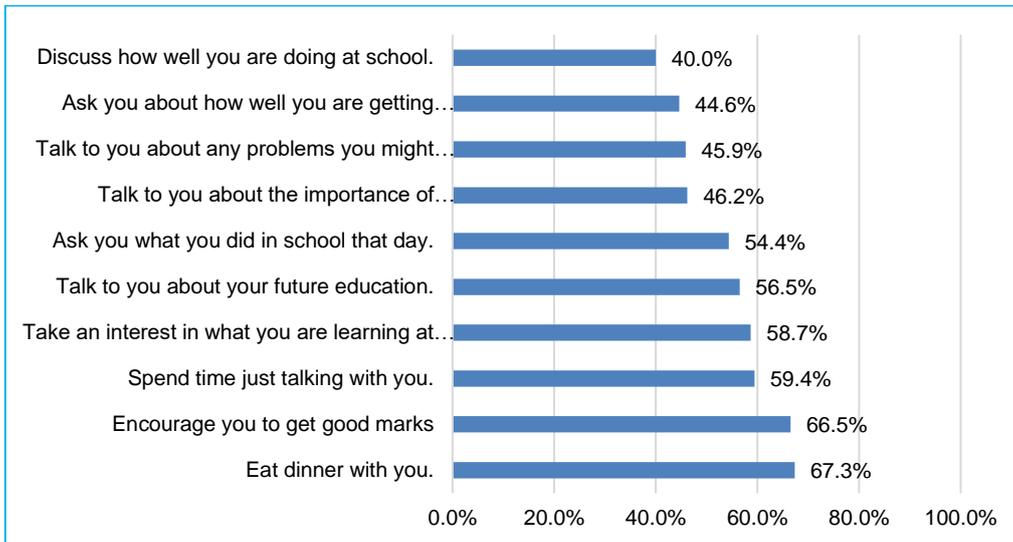


X. How is parental involvement in Cambodia?

Parental involvement in learning

- PISA data collected from school principals show that the percentage of parents who were involved in school and learning decreased substantially between 2018 and 2022 in many countries/economies. In 2022, 35% of students in Cambodia were in schools whose principal reported that during the previous academic year at least half of all families discussed their child's progress with a teacher on their own initiative (and 50% on the teacher's initiative). Systems that had more positive trends in parental involvement between 2018 and 2022 (i.e. systems in which the share of parents who discussed their child's progress with a teacher on their own initiative shrank less) tended to show more stable or improved performance in mathematics.
- In Cambodia, 66% of students reported that their parents or someone spent time talking with them. In contrast, less than 46% of students reported that someone or their parents talked about the importance of completing upper secondary education and any problems, getting along with their peers, and discussing how well they are doing at school.

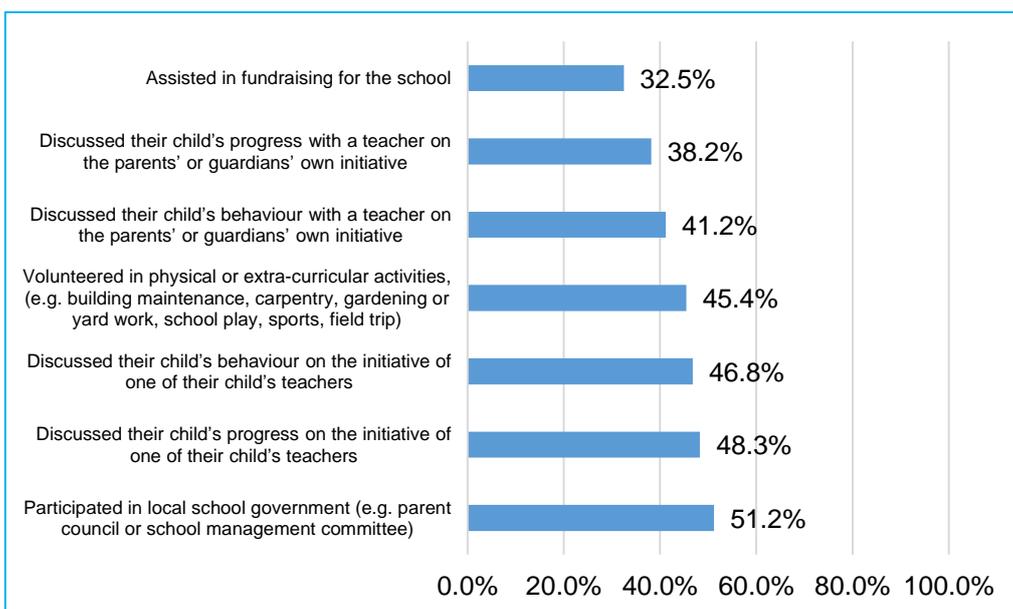
Figure 29: Percentage of students reported that their parent or someone in family did the following things several times a month or more often



Parental involvement in school-related activities

- In Cambodia, on average, 51% of school principals reported that parents participated in the school management committee. 38% to 48% of school principals reported that parents participated in discussing their child’s progress and their child’s behavior with teachers and volunteering in physical or extra-curricular activities. Moreover, on average, 32% of school principals reported that parents assisted in fundraising for the school.

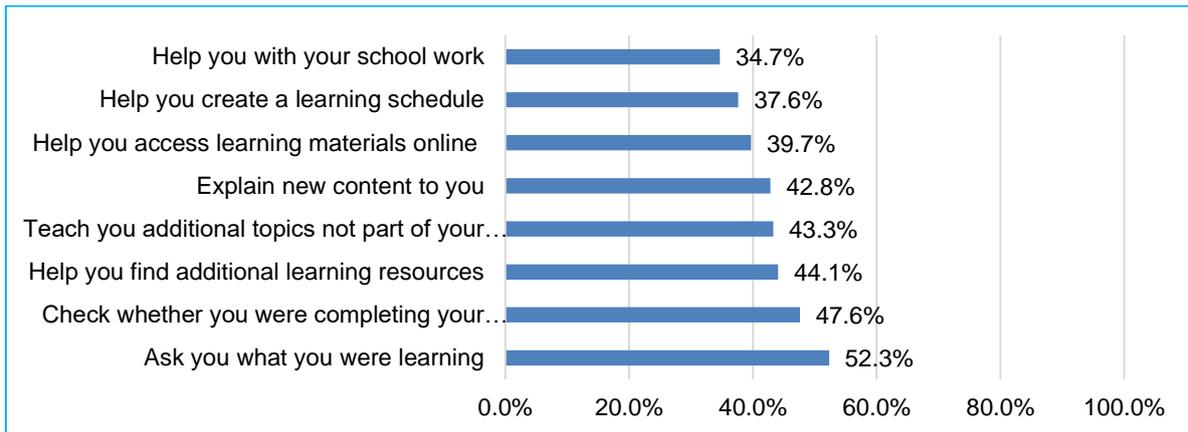
Figure 30: On average, a percentage of the principals reported that parents participated in the following school-related activities



Family support for self-directed learning

- During school closure, someone in the family just asked students about what they were learning, as reported by 52% of students. In contrast, there was a lack of family support in helping students with their school work (reported by 35% of students).

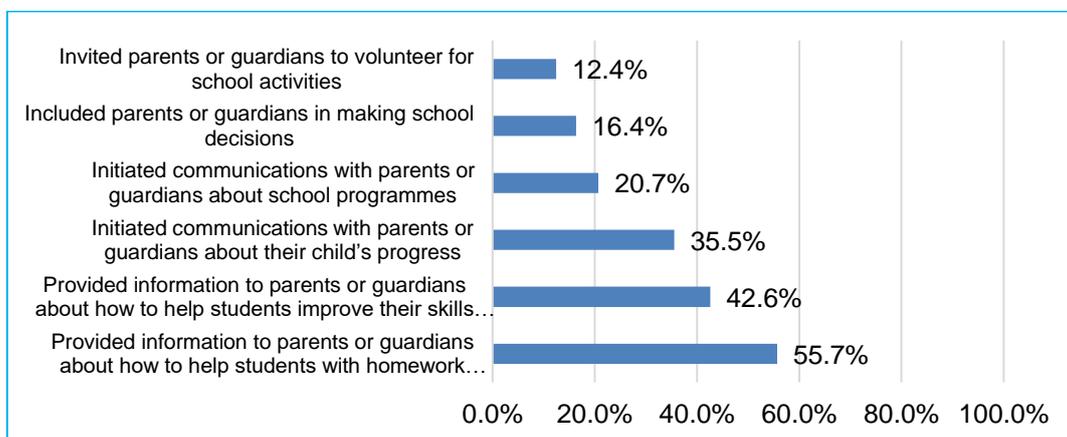
Figure 31: Percentage of students reported that someone in your family did the following things several times a month or more often, during the time when your school building was closed because of COVID-19



School encouragement of parent or guardian involvement

- In Cambodia, 56% of students were in schools whose principals reported that school staff provided information to parents or guardians about helping students with homework. Moreover, less than 21% of students reported that school staff-initiated communication with parents about school programmes, included parents in making school decisions, and invited parents to volunteer for school activities.

Figure 32: Percentage of students in schools whose principals reported that school staff has done following activities "a few times a month" or "once a week or more"

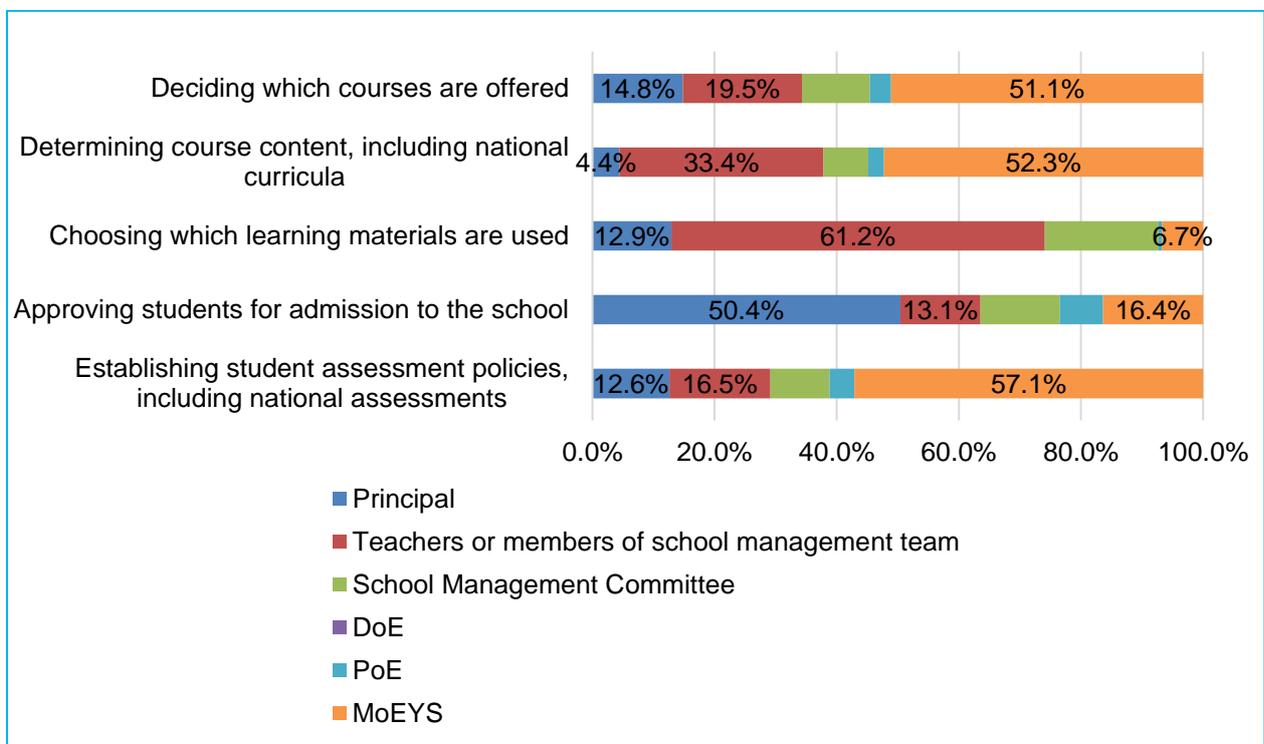


XI. How autonomous are schools in Cambodia?

School responsibility for curriculum

- In Cambodia, 50% of students were in schools whose principals reported that he/she had the main responsibility for approving students for admission to the school. Meanwhile, teachers or members of the school management team had the main responsibility for choosing the learning materials. Moreover, MoEYS had the main responsibility for establishing student learning assessment policy, including national learning assessment, determining course content, including national curricula, and deciding which course should be offered.

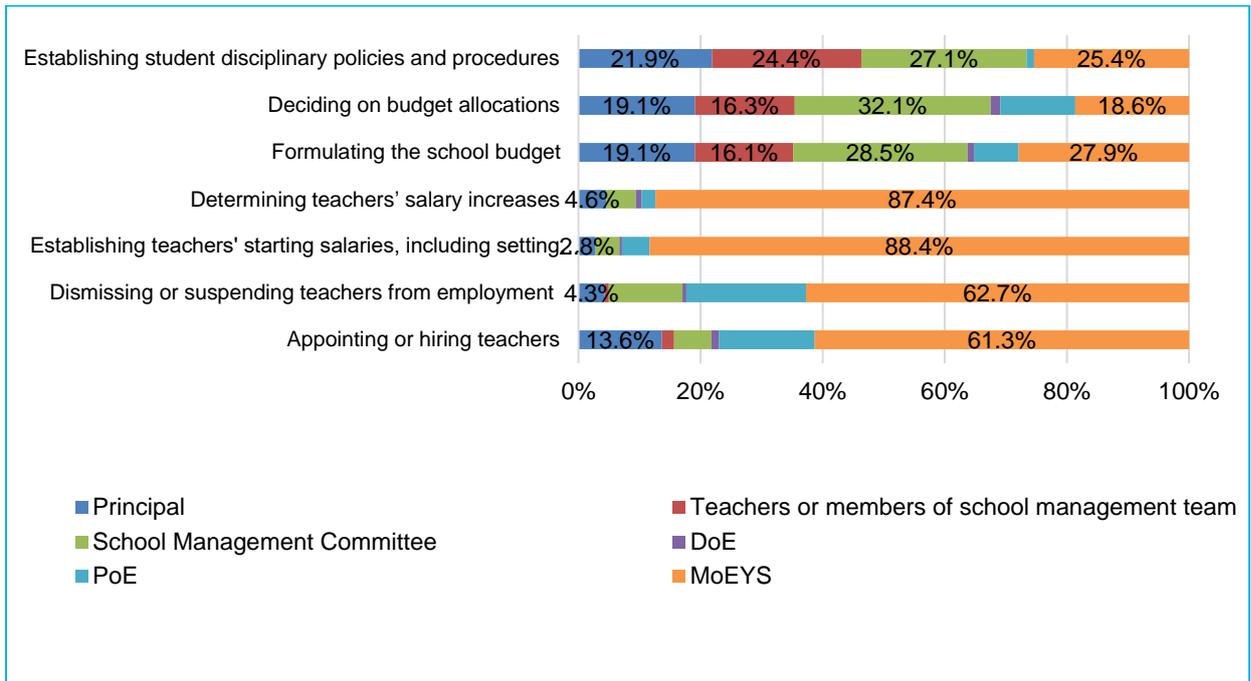
Figure 33: Percentage of students in schools whose principals reported about main responsibility for the following related to curriculum at school



Responsibility for school resources

- In Cambodia, MoEYS had the main responsibility for appointing or hiring teachers, dismissing or suspending teachers from employment, establishing teachers' started salaries, and determining teacher's salary increases. Meanwhile, MoEYS, the school management committee, principals, and teachers cooperatively had responsibility for formulating the school budget, deciding the budget allocations, and establishing student disciplinary policies.

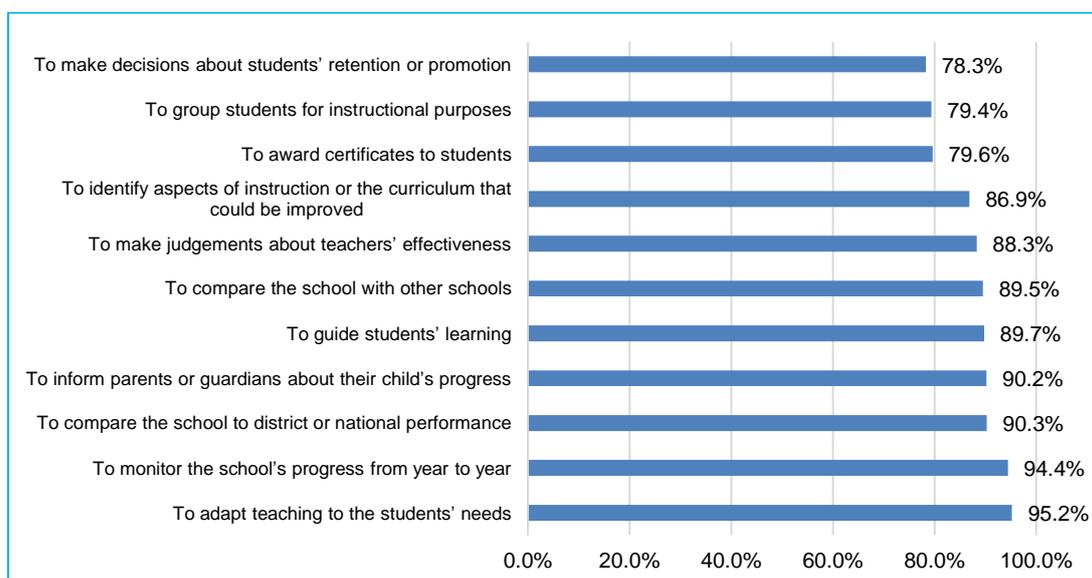
Figure 34: Percentage of students whose principals reported about main responsibility for the following related to resources at school



Use of standardized tests

- There was the highest percentage of students in schools whose principals reported that the standardized test was used for adapting teaching to the students' needs (95.2%), followed by "monitoring the school progress from year to year (94.4%)", whereas "to make decisions about the students' retention" was the lowest (78.3%), but it was in the fairly good.

Figure 35: Percentage of students in schools whose principals reported that the standardised test was used for following activities



XII. What do we know about schools with a resilient system in Cambodia?

- Despite falling behind other PISA-participating countries, some schools in Cambodia could perform as well as those in the OECD and ASEAN countries and even could perform better than some schools in ASEAN countries. The analysis showed that some public and private urban schools in Cambodia scored between 400 and 480 on the PISA scale in reading, mathematics or science. ASEAN average in reading, mathematics and science lied between 400 and 425; whereas the OECD average in reading, mathematics and science was between 470 and 485.
- This section discusses school and learning environments at selected 10 high-performing schools in Cambodia which scored at 400 or above in reading, mathematics or science. The analysis showed that these schools had a vibrant system in place to support teaching and learning especially a strong school management despite their varying degrees of school disadvantaged backgrounds. Although to some extent these schools did not outstandingly score better on self-reported student questionnaires, a number of school and student behaviors were observed as follows:
 - These schools tended to have a strong school culture and discipline with a specific focus on teaching and learning behaviors and activities in line with global competence as reflected in the PISA framework.
 - These schools had a better discipline and management of teacher and student attendance. The PISA questionnaire data showed that the proportion of students skipping some classes or all classes in a whole school day across these schools is smaller than the average schools in Cambodia.
 - School actions and activities to support student learning in and outside school were rated higher especially on questions related to assignment, learning materials for self-study, tips to learning, use of learning materials on learning management system and active virtual classes or communications during school closure.
 - These schools tended to provide broadened extra-curricular activities to support student learning such as study clubs, mathematics competition, sports, charity events and art activities.
 - These schools had students with higher self-directed learning practices and self-efficacy. Apparently, students in these schools tended to possess the abilities to learn independently, monitor own progress, and reinforce learning by themselves as needs arise. More interestingly, they reported high on the level of confidence to use technology for learning such as Zoom, Skype, Google Meets, Microsoft, digital learning appropriate resources for their needs etc.
 - Students across these schools tended to receive more family support on self-directed learning such as finding learning resources, monitoring homework and assignments and checking their learning progress.

- From PISA 2022 results, we can learn that despite the challenges of students' and schools' disadvantaged backgrounds compared to other countries in PISA, some schools in Cambodia are in good potential to do better on PISA performance if they start to build a strong and conducive culture practiced in the good-performing schools discussed above. In such scenario, students in Cambodia can have an education system on par with that of other students in ASEAN and OECD countries.

XIII. Conclusions

- There was an increase in student enrollment in secondary education in Cambodia between 2017 and 2022 based on the proportion of eligible 15-year-old students still remaining in school.
- The PISA 2022 results highlight significant global progress in achieving universal secondary education, particularly in countries like Cambodia, Colombia, Costa Rica, Indonesia, Morocco, Paraguay, and Romania, which have rapidly expanded education for those in need over the past decade. However, concerning trends emerge as all OECD member countries experience an unprecedented decline in academic results compared to PISA 2018, with average scores decreasing by 15 points in mathematics and 10 points in reading, while science scores remain unchanged.
- Despite an overall decline in 2022 PISA scores across most countries, Cambodia's performance in PISA 2022 showed a notable increase. Despite the obstruction caused by COVID 19, students aged 15 in Cambodia scored slightly better in PISA 2022 than in PISA-D 2017, especially in mathematics and science.
- In reading, students at level 2 or higher increased by 0.4%, from 7.5% in 2017 to 7.9% in 2022; in mathematics, students at level 2 or higher increased by 2.1%, from 9.9% in 2017 to 12% in 2022. What is notable was that science saw an increase in students at level 2 or higher to 10.4% from 5.2% in 2017.
- Despite far distance behind the OECD average and the ASEAN average and given the obstruction caused by the COVID pandemic, the Cambodia's increased results show a positive effect of the current education reform.
- Gender gap was not substantial. However, boys and girls performed at similar levels on average in mathematics but girls outperformed boys in reading by 20 score points and in science by 9 score points in Cambodia.
- Between 2017 and 2022, the student performance gap in reading, mathematics and science between urban and rural schools was reduced by about 1.5 times.
- The gap in student performance in reading between public and private schools was reduced by 18 scores from 59 scores to 41 scores. However, the gap in student performance in mathematics increased by 6 from 69 to 75. There was almost no change in the gap in student performance in science.

- Cambodia had a higher share of resilient students than that of the OECD average, meaning students from poor socio-economic family backgrounds had a higher chance to go top of the quarters of student performance in reading, mathematics and science.
- Despite all positive trends, both public and private schools in Cambodia were still below the bar, falling behind the ASEAN counterparts. The PISA 2022 results explicitly indicate that the odds for Cambodia to achieve at the level of the Philippines, Indonesia and Thailand is plausible with more and right learning opportunities and concerted efforts as stipulated in the model school standards introduced in late 2023.

Below is a summary of factors that lead to an increase in PISA 2022 results for Cambodia, emerging positive trends in school, major causes of low performance, and learning and actions to improve student learning outcomes in Cambodia.

Factors that lead to an increase in PISA 2022 results for Cambodia

While the results of OECD member countries declined across all three areas compared to PISA-D 2017 (reading decreased by 10 points, mathematics by 15 points, and science by 2 points), Cambodia (among the four nations) saw a notable increase in all three areas (reading increased by 8 points, mathematics by 11 points, and science by 17 points) due to:

- The capacity gap among Cambodian students appears to be minimal, regardless of their family's socioeconomic backgrounds.
- The capacity disparity between urban and rural schools has diminished.
- Approximately 18% of students from impoverished families in Cambodia exhibit high performance in all three areas, reflecting their resilience.
- Amid the battle against COVID-19, 67% of Cambodian students utilized electronic learning materials and online networks, with about 54% relying on instructional videos produced by the Ministry of Education, Youth, and Sports.
- During school closures, 43% of students received daily support through online classes, expressing confidence in their ability to learn digitally if future closures occur.
- Schools actively support distance learning (65%-69%)
- Schools prioritized standardized tests, self-study clubs, competitions, and remedial programs to support slow learners.
- Parents continue to show increased attention and support for their children's education.

Emerging positive trends in school and learning in Cambodia

Although student performance in Cambodia still needs to be improved, there are emerging positive trends in school and learning. These include:

- A gradual increase in 15-year-old students in secondary education
- Positive environment toward supporting student learning such as communication and discussion between schools and parents related to

students' learning and behaviors leveraging EdTech (School Information System and Learning Management System)

- Use of standardized tests to inform teaching and learning based on student's needs
- Availability of digital materials for synchronous and asynchronous teaching, learning, and assessment
- Positive attitude among school management, teachers, students, and parents to embrace digital resources and management such as Google Classroom and other apps, foundation skills on which SIS and LMS can be mainstreamed into school for effective and efficient management and instruction
- Mechanisms to implement extra-curricular activities such as study clubs, mathematics competition, sports, charity events and art activities has been mainstreamed into school action plan and educational regulatory document as one of the four priorities recommended by the Prime Minister of Cambodia to reinforce knowledge, skills, discipline, moral, and attitude of the students

Causes of low performance

From PISA 2022, it was concluded that while education in Cambodia is moving forward, it is facing a number of challenges that require sustained and innovative solutions.

1. **More rural than urban schools:** A large share of schools and students in Cambodia are characterized as having low socio-economic status. Almost two-thirds of schools are in rural areas and lack quality resources, teachers and learning materials, especially digital resources.
2. **Lack of foundation:** Cambodian students lack foundation skills in literacy and numeracy in early grades. Such deficiency affects their ability to understand complex texts, graphs, tables, and charts included in the PISA assessment that requires students to analyze, interpret, evaluate, and draw conclusion based on given evidence often related to their daily life situations. Poor literacy and numeracy skills prevent students from applying knowledge, rules, and theories to understand and solve mathematics and science problems. As a consequence, grade transition rate from primary to secondary education level in Cambodia remains low.
3. **Gaps in curriculum implementation:** One the one hand, textbooks are content-based and misaligned with global competency framework used in PISA. On the other hand, the curriculum is not fully implemented as it is meant to be due to loss in learning opportunities and other constraints such as half-day schooling, teacher and student tardiness and absenteeism, ineffective teaching, and distortion caused by use of digital devices (smart phones, tablets, etc.).
4. **Lack of qualified teaching workforce:** One contributing factor to educational challenges in Cambodia is the inadequate training of teachers. Those who were trained during the early 1980s and 1990s to meet the demand of schooling after the end of the civil war find themselves a challenge to cope

with current education reforms that require a shift from textbook-based teaching to concept-based teaching to allow students to maximize their potential. The shift requires teachers to master content knowledge and possess diversified skills in curriculum design, pedagogy, foreign language, and ICT among others for effective 21st century classroom.

5. **Issues with school governance:** Effective school governance has not been well implemented across all provinces, causing classroom disruption such as absenteeism, late arrival of teachers, truancy of students, half-day schooling, and distortion caused by use of digital devices (smart phones, tablets, etc.). Ineffective school governance results in a learning loss.
6. **Limited learning resources and support:** Schools in Cambodia lack learning and teaching resources that can be used to support self-directed learning or to encourage students to do homework, assignments and learning tasks that is of project nature requiring students to do a lot of analytical reading. Also, average schools in Cambodia tend to lack sustained support to student learning and mechanisms to actively engage parents in supporting student learning beyond school.

Actions to improve student learning outcomes

According to the Cambodian PISA 2022 results and the experiences of countries with a leading education system in the PISA 2022, the Ministry of Education, Youth, and Sports will prioritize the following actions to increase access to and quality of education that will be reflected in the next cycles of the PISA.

1. The implementation of the key points of the Prime Minister

Strengthening the quality of public educational institutions from kindergarten to secondary school through the implementation of four mechanisms.

- Strengthening school governance;
- Reviewing and revising curriculum and extracurricular activities in accordance with the needs of the students to enhance their knowledge, discipline, morality, and behavior;
- Taking care of students' health through a nutrition programme for children and quality control of school food.
- Promoting and encouraging active involvement of parents, guardians, and community in education in line with the slogan "State and Community Partnership for Education".

2. Implementation of school reform

- Implementing model school standards with a focus on:
 - **Strengthening school management:** This involves the establishment of school management committees and classroom management committees with the active participation of local community authorities and parents. The objective is to address challenges within the school and ensure effective management. Additionally, schools are urged to enhance their

data management systems, education statistics, and utilize school databases. Planning for teacher management by subject is essential to resolve the issue of teacher shortages, providing necessary materials, and incorporating effective teaching methods.

- **School development planning:** Schools are required to define their vision, mission, strategies, and key actions. The development of an accurate annual report and a school plan covering six years, three years, and one year according to guidelines, is crucial. The school improvement plan should also include the remedial programmes for slow learners with the support of the community.
- **Implementing standardized test:** The results of the standardized test conducted at the beginning, monthly, quarterly, and end of the school year should be utilized to enhance learning and teaching. Special attention should be given to aiding slow learners by improving teaching methods, implementing positive discipline measure, and providing pedagogical counseling.
- **Evaluating staff performance:** To ensure accountability to the community, school management and teachers are required to sign an annual performance agreement with the school management committee.
- **Ensuring quality of study time:** To enhance the quality of study time and minimize absenteeism, a focus on strengthening discipline and management within schools is imperative. PISA results indicate that Cambodia experiences a loss of school hours due to frequent tardiness and absences by both teachers and students. Teachers should actively encourage student engagement through practical exercises that assess both knowledge and skills, emphasizing on level of knowledge according to Bloom's Taxonomy. Additional homework requiring students to do research can further contribute to independent learning and avoid cheating during monthly or semesterly exams.
- **Familiarizing students with PISA test items:** Translate PISA items and develop test items in PISA format especially items at level 1a and 2 as instructional materials and classroom tests to prepare students for sitting the PISA test.
- **Implementing School Information Management (SIS) and Learning Management System (LMS):** SIS and LMS properly supported by connectivity, device, content, and training will ensure effective school management, increase access, improve quality, and narrow the gaps between geographical locations of the schools and socio-economic status of the students.
- **Selecting schools with strong digital programme:** New Generation Schools will be selected to implement digital programme. Outstanding students will be recruited to take the course on Introduction to Digital Literacy. For grade 10 students, the Ministry will put them in different tracks according to their talents 1) Science and Technology (STEAM) track, 2) normal programme track, 3) technical track.

- **Investing in laboratories and technology:** This involves strengthening secondary resource schools by allocating resources, and providing materials and teacher training for science and technology teaching.
- **Providing incentives for remote areas:** Incentivize schools in remote and disadvantaged areas through a number of mechanisms
 - Building teachers' houses
 - Offering appropriate stipends
 - Addressing teacher shortages through a formula of strengthening 80% and expanding 20%.
 - Implementing teacher recruitment process that require the prior approval of the needed schools
 - Utilizing information technology (Apps) for teacher development and textbook book supply
 - Reviewing the incentive system and public function system to increase the salary of teachers in disadvantaged schools in a speedy manner
 - Increasing the duration to 6 years for a spouse relocation
 - Requiring new teachers to teach in disadvantaged schools for 6 years before reallocation is allowed.
- **Investing in 21st century libraries:** Continuing investment in building 21st-century libraries involves adhering to library standards, incorporating technology, and providing additional learning resources in the form of hard books and e-books, while also allocating resources for new book writing.
- **Training core trainers using advanced system:** Providing resources for systematic teacher training following the model used by New Generation Schools and facilitating cooperation to send core trainers and lecturers for overseas programme such as the Cambridge Teacher Training Programme.

3. Teacher development through pedagogical school reform

- **Developing 21st century teachers with high professional standards through the reform of teacher training institutions**
 - Design preservice and in-service training programmes to equip teacher trainees with 21st-century knowledge and skills aligned with the "Teacher Professional Standards" qualification standards including 12+2 for kindergarten teachers, 12+4 for primary teachers, 12+4 for basic teachers, and Bachelor+2 for high school teachers.
 - Provide professional development for trainers and lecturers, emphasizing the mastery of subject content, pedagogical skills, and technology.
 - Invest in infrastructure development, including modern learning and teaching facilities, libraries, and instructional materials.
 - Implement leadership development programmes covering learning and teaching management, administration, financial management, personnel, and resource management.
 - Strengthen the quality of pedagogical knowledge and skills to link theory to the implementation during the pedagogical practicum.
 - Ensure quality assurance through an Internal Quality Assurance System, Accreditation Committee of Cambodia, and Independent Assessment.

- Incentivize teachers to acquire foreign language and digital skills as a means to support their professional knowledge, pedagogical skills and classroom practice.
- **Improving Teacher Recruitment** to enhance teacher recruitment criteria by giving priority to candidates with A, B, C qualifications based on the general secondary school examination results.
- **Prioritizing training of the core trainers**
 - Train the core trainers by selecting trainers and lecturers from teacher training institutions and good teachers from schools further training.
 - Establish career paths linked to regular professional development through two channels: annual selection of good teachers and principals via existing mechanism and selection of good teachers, good principals, and good educators via new generation schools, and model schools.
- **Updating Teacher Policy Action Plan**
 - Attract and motivate competent persons into the teaching profession.
 - Ensure quality of pre-service teacher training.
 - Ensure regular professional development and in-service training for teachers.
 - Ensure the conditions necessary for teachers to fulfil their professional activity effectively and efficiently.
- **Establishing mechanism to implement lifelong professional development policy for educators**
 - Establish mechanism framework for continuous professional development for education personnel.
 - Ensure that every education official has the opportunity to regular in-service training program.
 - Incentivize education personnel to participate in professional development programme by linking its benefit with career path policy.
 - Implement effective mechanism to monitor and evaluate continuous professional development programme, teacher education reform programme, and school management reform programme.
- Upgrade teacher education/training program to a higher standard from primary school to high school (12+4), (BA+1) and (BA+2)
- Establish good relationship among teacher training institutions, new generation schools and model schools to exchange pedagogical experiences
- Promote a culture of research among trainers/lecturers and trainees through action research projects and the publications of the results.
- Strengthen internal quality assurance system to comply with standards of higher education institutions and teacher education institutions.
- Increase teacher capacity so that they can teach the students to have global knowledge and skills as measured in PISA by embracing diversified methods such as experiments and project assignments.
- Incorporate an assessment subject as a common course in all teacher training programs.

- Increase teacher capacity to effectively teach reading (EGRA) and numeracy (EGMA) by applying them to local contexts to engage students solve daily problems from mathematics and science perspectives.

4. Review of textbooks and improvement of teaching methods

- Conduct a comprehensive review of textbooks for all subjects in all school levels, benchmarking against PISA competency framework.
- Align teacher training programme with teaching methods and classroom assessment. These practices will support the implementation of new curricula, ensuring Cambodian students achieve global competencies aligned with the PISA International Student Assessment and global education standards.
- Improve teaching methods moving away from textbook- to concept-based teaching employing inquiry-based learning (IBL), problem-based learning (PBL), and project-based learning to allow students to have the opportunity to develop critical thinking skills and solve problems related to daily life.
- Train teachers to understand and use the PISA competency framework for teaching.
- Implement EGRA and EGMA beyond early primary grades to all the grades with the focus on dictation and essay.
- Improve reading instruction method to include skills that allow students to analyze texts, draw conclusion, identify main idea, interpret concept provided by the author, and compose sentences and texts.
- Improve science instruction method to allow students to explain formular, scientific terms and concepts, scientific phenomena, interpret data, conduct experiment, and apply scientific knowledge in daily life.
- Develop instructional materials and worksheets in hard and soft copies by subjects and grades and require teachers to use them as additional materials to reinforce learning in the classroom.
- Increase instructional hours to allow students to have more time to study the important subjects especially Khmer, mathematics, and science through study club and extra-curricular activities.
- Modernize curriculum and instructional resources to support students to develop knowledge and skills required to increase performance in PISA test in particular and become workforce to realize Cambodia' s vision stipulated in the Pentagonal Strategy Phase I.

5. Increase community participation

- Encourage parents to register their children at the appropriate age especially in primary and lower secondary levels.
- Encourage communities and parents to support students especially those with learning problems to avoid grade repetition and dropout.
- Strengthen school-parent communication and transparency in school management and student learning outcome leveraging EdTech to provide on time support to students especially those who have poor learning performance and are risky to drop out of school.

6. Promote school governance and support

- Strengthen school management to achieve model school standards, improving student learning outcomes and transforming school culture

- Strengthen school discipline and environment from primary to lower secondary schools to provide space for students to establish a strong learning culture to prepare themselves to be curious learners, independent thinkers, global citizens, digital citizens, and problem solvers as stipulated in Digital Education Strategy for School¹.
- Identify schools meeting model school standards based on high performance in assessments and examinations result such as PISA, SEA-PLM, national assessments, and high school examination.
- Implement student assessments, especially in primary and secondary education to collect data to inform teaching, guide learning, and evaluate education outcomes.
- Increase school autonomy in development, involving stakeholders in the process.
- Enhance inspections and provide direct support in schools.
- Reduce the urban-rural education gap by ensuring that schools have sufficient and quality staff and educational materials.

7. Curriculum development

- Review textbooks, teaching methods, and assessment methods to align them with developed countries.
- Incorporate practical contexts into textbooks to enhance students' problem-solving abilities related to mathematical and scientific concepts.
- Strengthen the foundations by reinforcing the schools to maximize the use of the EGRA and EGMA materials in hard and soft copies for student practices both inside and outside schools.
- Expand the application Early Grading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) in the Teacher Training Program.
- Increase school hours such as full-day programme to allow students to have time for extra-curricular activities or remedial classes.
- Organize reading competitions in schools.

8. Promote school health

School will have to ensure the sustainability of school operations and prioritize the health, including mental health, of educators and students by:

- Establish a school health committee.
- Improve health infrastructure, including standard health rooms, green environment, and clean schools.
- Promote the use of clean water and sanitation, emphasizing drinking water, handwashing, proper toilet facilities, mask-wearing, and maintaining safe distances.
- Promote nutrition, emphasizing food safety and implementing school feeding programs.
- Incorporate health education into the curriculum and new normal following the school health syllabus and textbooks, exercises, and sports.

¹ Ministry of Education, Youth and Sport (Forthcoming) Digital education strategy for school.

9. Student support

- Increase investment in early childhood education to boost primary school enrollment, reduce dropout rates, and repetition rates while enhancing overall study quality at all levels.
- Establish mechanisms to prevent dropouts and repetition, offering support activities to help students learn according to their age.
- Foster student autonomy in learning and ensure a strong foundation for learning and welfare for all students.
- Encourage increased parental involvement in student learning activities and school development.

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