



# PASEC2024

DATA COLLECTED IN 2025

## EXECUTIVE SUMMARY

# STUDENT SKILLS AT THE END OF **LOWER SECONDARY SCHOOL**

Sub-Saharan Africa

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Any error or omission identified after publication of this report will be corrected in its online version.

# BACKGROUND AND OBJECTIVES OF PASEC2024

For more than three decades, CONFEMEN's Programme for the Analysis of Education Systems (PASEC) has been a regional benchmark for large-scale assessment of education systems in sub-Saharan Africa. Designed as a decision-support tool, it provides participating countries with reliable, comparable and contextualised data on the performance of their education systems and on the determinants of learning in reading and mathematics.

In an international context marked by growing demands for accountability and results-based management, PASEC contributes directly to monitoring the commitments linked to Sustainable Development Goal 4 (SDG 4), in particular target 4.1 on the acquisition of foundational skills and target 4.c on teacher quality. It is thus part of a global drive to improve the quality, equity and effectiveness of education systems.

The PASEC2024 assessment covers reading/text comprehension and mathematics, two foundational subjects that are pillars of school learning and a gateway to all other knowledge. Mastery of these two subjects is widely recognised as a key factor not only in academic success but also in individuals' social and economic integration.

Fourteen countries took part in the assessment of student skills at the end of basic education, i.e. after 9 to 10 years of schooling: Benin, Burundi, Congo, Côte d'Ivoire, Djibouti, Gabon, Guinea, Guinea-Bissau, Madagascar, Mali, Sao Tome and Principe, Senegal, Chad and Togo.

Eleven had taken part in the PASEC2019; Djibouti, Guinea-Bissau, Mali, and Sao Tome and Principe took part in PASEC2024 for the first time. In total, 57,164 students were assessed in the 2,383 lower secondary schools of the end-of-lower-secondary sample between April and June 2025.

This document is the executive summary of the PASEC2024 international report on the skills of students at the end of lower secondary school. It presents the report's main findings in condensed form for ministers, their teams and technical and financial partners. It does not replace the report, which contains the full analyses and detailed results by country.

Readers will find ten key messages summarising all the findings; mean scores and their dispersion within each country; a description of skills in reading comprehension and mathematics at each level of the scales; the disparities observed within systems according to certain characteristics; and what these results imply for public policy.



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# KEY MESSAGES

## 1 At the end of nine or ten years of education, only one in three students masters the minimum skills in reading; fewer than one in four in mathematics

- On average in the 14 countries, **32.7% of students achieve the baseline level of proficiency in reading and 22.6% in mathematics.**
- 67.3% of students at the end of lower secondary school are unable to make inferences or interpret texts as required by the lower secondary curricula, and 77.4% do not know how to use multiple mathematical concepts in a less direct situation.
- **After nine to ten years of education, the majority of students do not have the necessary knowledge to confidently continue further education.**

## 2 From one country to another, the gap reaches two standard deviations: more than 200 points separate the extremes in reading and more than 180 points in mathematics

- In reading, mean scores range from 631.6 points in Gabon to 428.8 points in Chad, i.e. a gap of 202.8 points, the equivalent of two standard deviations on the scale.
- In mathematics, they range from 590.9 points in Benin to 410.5 points in Guinea-Bissau, i.e. a gap of 180.5 points.

- **Only four countries have a majority of students above the baseline level of proficiency in reading (Gabon 87.9%, Benin 58.0%, Senegal 51.7%, Côte d'Ivoire 50.9%). In mathematics, only Benin and Burundi achieve this with proportions close to 55%.**

- Fewer than 2% of students achieve the baseline level of proficiency in mathematics in Sao Tome and Principe (0.8%) and Guinea-Bissau (1.5%).

## 3 A large proportion of students at the end of lower secondary school have not consolidated the learning outcomes expected at the end of primary school at the end of primary school

- In reading, 29.0% of students are at level 1, below the minimum skills expected at the end of primary school; they are 57% in Mali and Chad, 52% in Burundi and 50% in Madagascar.
- In mathematics, 42.2% of students are at level 1, and five countries (Djibouti, Guinea-Bissau, Mali, Sao Tome and Principe, Chad) have a majority of their students at this level, including 79% in Chad and 87.5% in Guinea-Bissau.
- The gaps between countries are also the widest on elementary processes (explicit understanding, knowledge of concepts).
- **Gaps that have not been addressed in primary school are carried over to lower secondary school, where they become more difficult to correct.**

## 4 Success in reading and success in mathematics are two separate problems

- The correlation between national scores in reading and mathematics is only 0.43, and 5 out of 14 countries (Burundi, Congo, Côte d'Ivoire, Madagascar, Sao Tome and Principe) have a different position in relation to the mean depending on the discipline.
- Burundi is 63 points below the mean in reading (436.7) but 82 points above it in mathematics (582.5).
- Gabon is ahead of all countries in reading (+131.6 points) but only exceeds the mean by 16.8 points in mathematics, with 79% of students below the minimum proficiency level.
- **The diagnosis and priorities must be established discipline by discipline.**

## 5 Within the same country, an average of 250 points separates the weakest 10% of students from the strongest 10%

- **The gap between the 90th percentile and the 10th percentile (P90-P10) averaged 256.7 points in reading and 249.6 points in mathematics, compared to 202.8 points between the two extreme countries in reading.**
- The gap ranges from 84.3 points in Burundi to 278.4 points in Côte d'Ivoire in reading, and from 112.5 points in Sao Tome and Principe to 256.6 points in Guinea in mathematics.
- In Gabon, the 10% of students with the lowest reading skills (530 points) do better than half of the students in the 14 countries, while in Chad they are capped at 336 points.



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- In 13 out of 14 countries, the upper half of the mathematics distribution is more spread out than the lower half: the mean overestimates the level of the median student.

## 6 The school attended and social background weigh heavily on outcomes, especially in reading

- The differences between institutions represent a median of 40.4% of the gaps in reading scores and 41.2% in mathematics, up to 63.6% in Madagascar.
- In reading, the gap between the most advantaged 20% of students and the most disadvantaged 20% ranges from 22 points in Chad to 120 points in Congo, and exceeds 100 points, or about one standard deviation, in four countries (Congo, Côte d'Ivoire, Madagascar, Togo).
- In mathematics, the gap narrows by an average of one-third (from 74 to 49 points) in the 14 countries.
- On average, girls are 5.6 points ahead of boys in reading and boys are ahead of girls by 3.0 points in mathematics. These gaps are small, but in the seven countries where the gap in mathematics is significant, it is always unfavourable to girls, up to -31.8 points in Burundi.

## 7 The environment in which institutions are located and their status remain important

- The advantage of urban students in reading is significant in 11 out of 14 countries, from 18 points in Burundi to 72 points in Congo.
- In reading, the private sector is significantly ahead of the public sector in 10 out of 13 countries, sometimes

by more than 70 points, while in Côte d'Ivoire the public sector performs better (-30.6 points in reading).

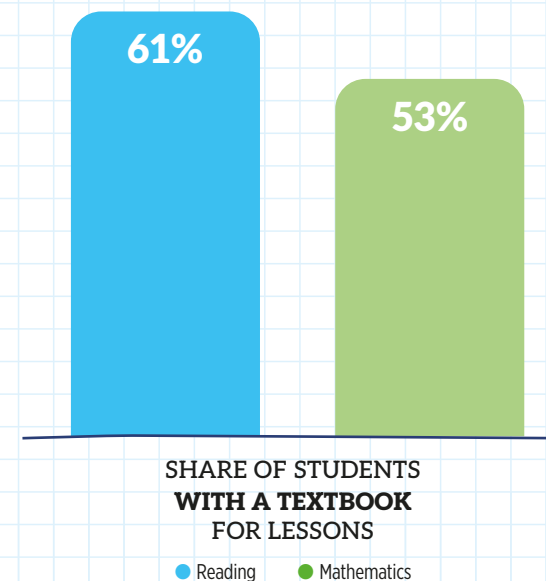
- In several countries, these gaps are greatly reduced, or even disappear, when comparing institutions with similar infrastructure conditions and resources.

## 8 Nearly one in two students follow mathematics lessons without a textbook, and more than one in two are in a class of more than 40 students

- Across all countries, only 61.1% of students say they have a reading textbook and 52.9% a mathematics textbook.
- More than one in two students are educated in a class of more than 40 students and one in ten in a class of more than 80 students.

## 9 Teaching resources accumulate with students who are already advantaged instead of compensating for inequalities

- Three out of four students have a teacher with a higher education qualification, but 43.8% have a reading teacher whose pre-service training lasted less than six months or did not take place.
- The raw advantage associated with a university degree in reading (+27.6 points) falls to +2.8 points in a comparable context and is mainly due to the student populations to which these teachers are assigned.
- Only ten years or more of experience remains associated with reading outcomes (+5.9 points).



- One in three students has a teacher who has not completed the previous year's curriculum.

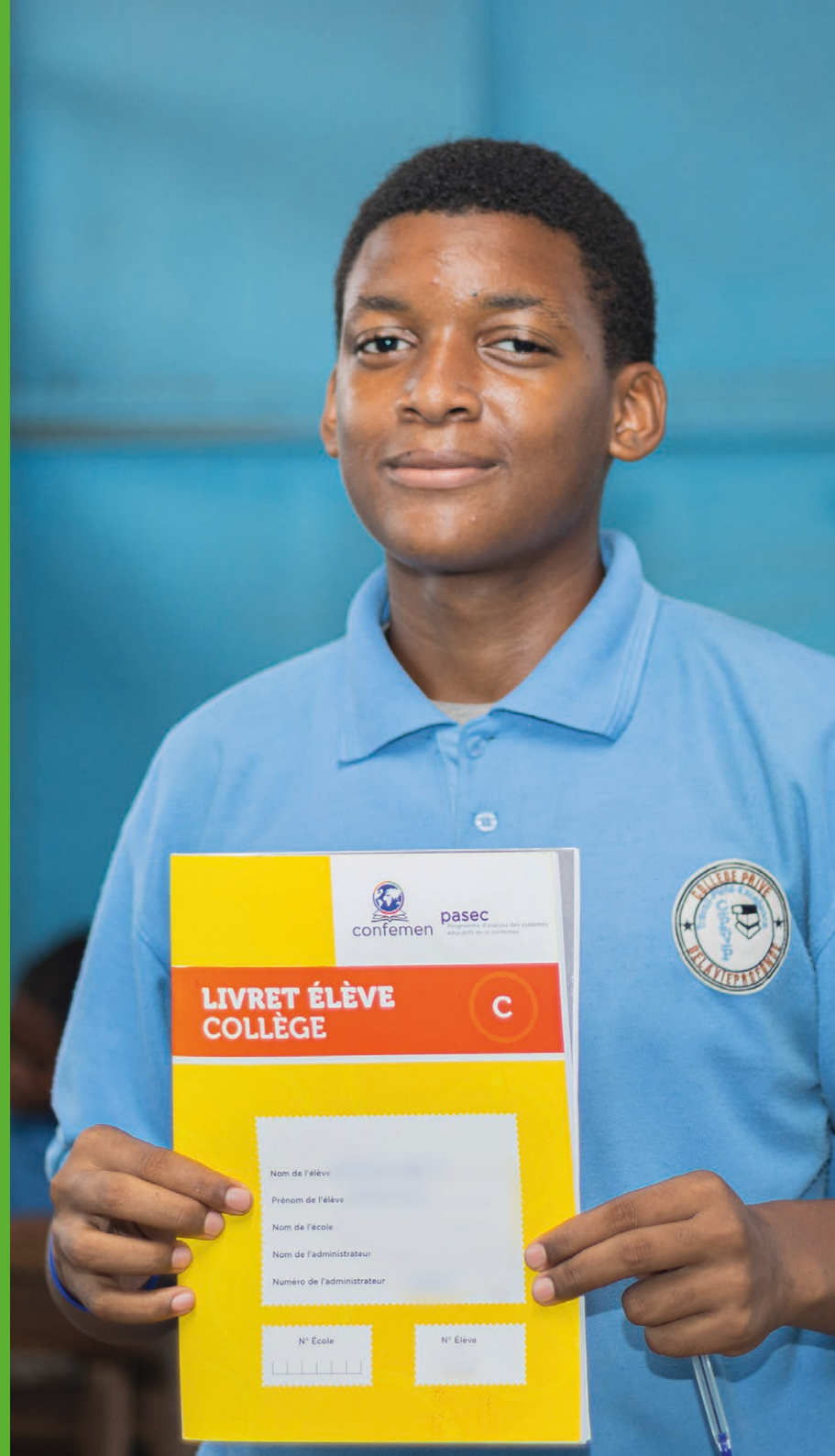
## 10 Spending more is not enough: how resources are used matters as much as their volume

- Benin and Togo obtain high scores with moderate public spending per lower secondary school student (PPP US\$343.6 and PPP US\$190.5) and are on the efficiency frontier.
- Gabon spends 2.3% of its GDP on education and leads 87.9% of its students to above the minimum proficiency level in reading.
- Burundi and Mali spend at least 4% of their GDP on education, with less than 10% of students having acquired minimum reading skills.

## SECTION 1

# Mean scores and dispersions

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The scores are expressed on an international scale with the mean of the 14 countries assessed at 500 points and the standard deviation at 100 points. Cross-country comparisons take sampling error into account: two close scores are considered different only if the gap is statistically significant. The table opposite presents, for each country and subject, the mean score, its position in relation to the international mean and the proportion of students reaching the “minimum” proficiency level.

**Table 3.1**

**Mean reading scores and proportion of students above the “minimum” proficiency level, by country and subject**

| Country               | Reading: score<br>(standard error) | Reading: position<br>in relation to the<br>international mean | Reading:<br>% ≥ level | Mathematics: score<br>(standard error) | Mathematics:<br>position | Mathematics:<br>% ≥ level |
|-----------------------|------------------------------------|---------------------------------------------------------------|-----------------------|----------------------------------------|--------------------------|---------------------------|
| Gabon                 | 631.6 (3.6)                        | Higher                                                        | 87.9                  | 516.8 (4.6)                            | Higher                   | 21.2                      |
| Benin                 | 562.5 (3.5)                        | Higher                                                        | 58.0                  | 590.9 (4.8)                            | Higher                   | 55.5                      |
| Senegal               | 552.9 (4.2)                        | Higher                                                        | 51.7                  | 550.7 (5.4)                            | Higher                   | 39.0                      |
| Côte d'Ivoire         | 544.5 (4.8)                        | Higher                                                        | 50.9                  | 495.6 (4.8)                            | Close                    | 18.4                      |
| Togo                  | 524.7 (2.4)                        | Higher                                                        | 38.0                  | 556.4 (4.3)                            | Higher                   | 40.3                      |
| Sao Tome and Principe | 515.7 (3.3)                        | Higher                                                        | 38.1                  | 454.5 (1.9)                            | Lower                    | 0.8                       |
| Congo                 | 509.7 (4.5)                        | Higher                                                        | 39.7                  | 489.9 (4.4)                            | Lower                    | 19.1                      |
| Guinea                | 499.1 (4.6)                        | Close                                                         | 33.1                  | 501.1 (7.0)                            | Close                    | 23.6                      |
| Guinea-Bissau         | 461.5 (4.2)                        | Lower                                                         | 15.6                  | 410.5 (3.7)                            | Lower                    | 1.5                       |
| Djibouti              | 454.5 (7.4)                        | Lower                                                         | 14.3                  | 465.1 (7.2)                            | Lower                    | 9.7                       |
| Madagascar            | 446.8 (4.6)                        | Lower                                                         | 9.5                   | 513.0 (3.7)                            | Higher                   | 20.8                      |
| Burundi               | 436.7 (1.7)                        | Lower                                                         | 1.9                   | 582.5 (4.5)                            | Higher                   | 55.4                      |
| Mali                  | 430.9 (3.8)                        | Lower                                                         | 9.2                   | 453.1 (5.0)                            | Lower                    | 8.0                       |
| Chad                  | 428.8 (4.9)                        | Lower                                                         | 9.0                   | 419.9 (6.1)                            | Lower                    | 4.1                       |
| <b>PASEC2024 MEAN</b> | <b>500</b>                         | <b>–</b>                                                      | <b>32.7</b>           | <b>500</b>                             | <b>–</b>                 | <b>22.6</b>               |

*How to read: “higher”, “close” and “lower” indicate whether the mean score is significantly above, not distinct from or significantly below the international mean. The “minimum” proficiency level corresponds to level 3 of the reading and mathematics scales.*



All figures and tables are taken from the International Report “PASEC2024 – Student skills at the end of Lower Secondary School in Sub-Saharan Africa” available online: <https://pasec.confemen.org/en/results/pasec-24-report>



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## In reading, seven countries above the mean, but the majority of students reach the “minimum” proficiency level in only four countries

Mean reading scores range from 631.6 points in Gabon to 428.8 points in Chad, i.e. a range of 202.8 points, the equivalent of two standard deviations of the scale. Gabon stands out clearly: it is significantly ahead of the 13 other countries and stands at 131.6 points above the mean. This is followed by Benin, Senegal and Côte d'Ivoire (between 544.5 and 562.5 points), whose scores are not always statistically distinguishable from each other, then Togo, Sao Tome and Principe and Congo (between 509.7 and 524.7 points).

Guinea (499.1 points) is the only country whose mean does not differ from the international mean. Six countries are significantly below. Guinea-Bissau, Djibouti and Madagascar form an intermediate group (between 446.8 and 461.5 points). Burundi, Mali and Chad bring up the rear, with scores between 428.8 and 436.7 points, more than 60 points below the mean; their scores are not statistically different from each other.

The position in relation to the mean must be read with caution, as the mean of 500 points is at level 2 of the scale, i.e. below the “minimum” proficiency level. Of the seven countries above the mean, only four bring a majority of their students above the level (Gabon, Benin, Senegal and Côte d'Ivoire). In Togo, Sao Tome and Principe and Congo, about six out of ten students remain below the level despite a mean of more than 500 points.

## In mathematics, the majority of students reach the “minimum” proficiency level in only two countries

Mean scores in mathematics range from 590.9 points in Benin to 410.5 points in Guinea-Bissau, i.e. a range of 180.5 points, slightly lower than that for reading. Benin and Burundi (582.5 points) stand out clearly and do not differ statistically from each other. These are the only two countries where a majority of students (about 55%) reach the “minimum” proficiency level. Togo and Senegal follow, around 551 to 556 points, then Gabon and Madagascar, slightly above the mean.

Guinea and Côte d'Ivoire have scores statistically close to the international mean. Six countries are below: Congo, Djibouti, Sao Tome and Principe, Mali, Chad and Guinea-Bissau. In the bottom four, less than 10% of students reach the baseline level of proficiency, and less than 2% in Sao Tome and Principe and Guinea-Bissau.

As in reading, exceeding the mean does not guarantee mastery of the expected skills. Togo, Senegal, Gabon, Madagascar and Guinea have a mean of 500 points or higher, but between 60% and 79% of their students remain below the baseline level of proficiency. In total, 12 out of 14 countries have a majority of students below the baseline level of proficiency in mathematics.

## Contrasting national profiles between the two disciplines

The correlation between the countries' national scores assessed in reading and mathematics is 0.43, indicating a positive but moderate association. Nine countries occupy the same position in both disciplines: Benin, Gabon, Senegal and Togo above the mean; Djibouti, Guinea-Bissau, Mali and Chad below; Guinea close to the mean in both cases.

The other five change positions. Burundi and Madagascar are below the mean in reading and above the mean in mathematics; the contrast is maximum in Burundi, 63 points below the mean in reading and 82 points above in mathematics. Congo and Sao Tome and Principe have the opposite configuration, and Côte d'Ivoire moves from a higher position in reading to a position close to the mean in mathematics. Gabon, which is first in reading with 131.6 points ahead of the mean, is only 16.8 points higher in mathematics.

(...) exceeding the mean does not guarantee mastery of the expected skills.



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## A dispersion of scores that does not follow the mean level

The dispersion of scores within each country is measured by the coefficient of variation, i.e. the standard deviation in relation to the mean, and by the gap between the 90th percentile and the 10th percentile (P90-P10). The table below brings these indicators together.

 **Table 3.2**

### Dispersion of scores within countries, by discipline

| Country                  | Reading:<br>coefficient of<br>variation (%) | Reading:<br>standard deviation<br>(points) | Reading:<br>P90-P10<br>(points) | Mathematics:<br>coefficient of<br>variation (%) | Mathematics:<br>standard deviation<br>(points) | Mathematics:<br>P90-P10 (points) |
|--------------------------|---------------------------------------------|--------------------------------------------|---------------------------------|-------------------------------------------------|------------------------------------------------|----------------------------------|
| Benin                    | 13.3                                        | 75                                         | 190.4                           | 16.5                                            | 97                                             | 240.9                            |
| Burundi                  | 8.5                                         | 37                                         | 84.3                            | 13.3                                            | 77                                             | 195.9                            |
| Congo                    | 20.2                                        | 103                                        | 270.5                           | 19.4                                            | 95                                             | 234.6                            |
| Côte d'Ivoire            | 19.5                                        | 106                                        | 278.4                           | 18.7                                            | 93                                             | 227.4                            |
| Djibouti                 | 17.5                                        | 80                                         | 199.3                           | 16.6                                            | 77                                             | 194.6                            |
| Gabon                    | 12.3                                        | 78                                         | 197.7                           | 13.4                                            | 69                                             | 173.4                            |
| Guinea                   | 18.4                                        | 92                                         | 237.2                           | 20.7                                            | 104                                            | 256.6                            |
| Guinea-Bissau            | 16.4                                        | 76                                         | 195.2                           | 14.8                                            | 61                                             | 140.1                            |
| Madagascar               | 15.4                                        | 69                                         | 161.5                           | 13.9                                            | 71                                             | 179.3                            |
| Mali                     | 18.0                                        | 78                                         | 191.2                           | 18.2                                            | 82                                             | 202.7                            |
| Sao Tome<br>and Principe | 15.3                                        | 79                                         | 204.3                           | 9.7                                             | 44                                             | 112.5                            |
| Senegal                  | 16.2                                        | 90                                         | 232.4                           | 17.9                                            | 99                                             | 245.9                            |
| Chad                     | 18.8                                        | 81                                         | 198.5                           | 19.5                                            | 82                                             | 185.8                            |
| Togo                     | 14.7                                        | 77                                         | 196.8                           | 18.0                                            | 100                                            | 249.6                            |
| <b>ALL COUNTRIES</b>     | <b>20.0</b>                                 | <b>-</b>                                   | <b>256.7</b>                    | <b>20.0</b>                                     | <b>-</b>                                       | <b>249.6</b>                     |

In reading, the coefficients of variation range from 8.5% in Burundi to 20.2% in Congo, with 13 countries ranging from 12.3% to 20.2%. Congo and Côte d'Ivoire combine a mean higher than the median of countries and the strongest dispersion: these systems succeed with some of their students and fail with others. Gabon, Benin and Togo, on the other hand, have high scores and tight distributions. Burundi presents a special case: its standard deviation (37 points) is 46% lower than the lowest of the other countries (Madagascar, 69 points), but this homogeneity is at a low level.

In mathematics, the coefficients range from 9.7% in Sao Tome and Principe to 20.7% in Guinea. Four configurations emerge. Guinea, Congo and Côte d'Ivoire have scores close to the median and a high dispersion. Benin, Togo and Senegal combine good scores and high dispersion: their success is driven by the top of the distribution. Gabon, Madagascar and Burundi score above the median with low dispersion: their success is more widely shared. Finally, Chad, Mali and Djibouti have low scores and a high dispersion.

The situation of the countries changes according to the indicator chosen: in reading, 8 out of 14 countries gain or lose their positions depending on whether we consider the standard deviation in points or the coefficient of variation. A low dispersion is not, therefore, in itself a sign of equity: it must always be read with the mean level.



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## The gap between P10 and P90: 250 points on average separates the weakest students from the strongest

The interdecile gap (P90-P10) measures the distance between the score below which the lowest-performing 10% of students fall and the score above which the highest-performing 10% lie. For all 14 countries, it reached 256.7 points in reading and 249.6 points in mathematics, i.e. about two and a half standard deviations on the scale.

**In reading**, the gap ranges from 84.3 points in Burundi to 278.4 points in Côte d'Ivoire. Congo and Côte d'Ivoire are the only countries where each of the two halves of the distribution (from the P10 to the median, and from the median to the P90) exceeds 130 points. In Chad, Mali and Djibouti, the lower half is narrower (76 to 87 points) and the upper half more spread out (111 to 123 points): the mass of students is concentrated at a low and homogeneous level, from which only a minority stands out. In 11 out of 14 countries, the upper half is larger than the lower half.

The 10th percentile refers to the population that is primarily targeted by remediation systems. In reading, it stands at 335.9 points in Chad, 343.8 in Mali and 365.6 in Djibouti, compared to 530.0 points in Gabon: the weakest 10% of Gabonese students do better than half of the students in the 14 countries. In contrast, Burundi's 90th percentile (477.8 points) remains below this median. With a 90th percentile of 686.2 points in Côte d'Ivoire and 727.7 points in Gabon, some systems show that they know how to lead some of their students to high levels. The mean result is, therefore, not a ceiling imposed by the context, but the product of conditions that vary within the country.



**In mathematics**, the interdecile gap ranges from 112.5 points in Sao Tome and Principe to 256.6 points in Guinea, and it also exceeds 245 points in Togo (249.6) and Senegal (245.9). The 10th percentile stands at 327.7 points in Chad, 340.3 in Guinea-Bissau and 354.5 in Mali. In Burundi (486.1 points) and Benin (477.4 points), it almost reaches the international median (490.2 points): the weakest students in these two countries are at the level of the median student in the 14 countries. In Guinea-Bissau, by contrast, even the 90th percentile (480.4 points) remains below this median. At the top, the 90th percentile reaches 718.3 points in Benin and 689.0 in Togo.

In 13 out of 14 countries, the upper half in mathematics is larger than the lower half, which means that the mean overestimates the level of the median student. Sao Tome and Principe is the only exception, with two strictly equal halves (56.3 and 56.2 points), a sign of a general compression of its distribution at a low level.

**Cross-reading of the two disciplines:** in four countries, the weakest students are weakest in both subjects, at a comparable and low level: in Chad (335.9 points in reading and 327.7 in mathematics), Mali (343.8 and 354.5), Guinea-Bissau (366.7 and 340.3) and Djibouti (365.6 and 373.5). In two countries, the level of the weakest students depends strongly on the discipline: in Gabon, the 10th percentile reaches 530.0 points in reading but 432.9 in mathematics; in Burundi, 486.1 points in mathematics but 393.6 in reading. Benin and Togo are the only countries where the 10th percentile exceeds 430 points in both disciplines.

These results call for two complementary interpretations. On the one hand, the magnitude of internal gaps, often greater than the gaps between countries, shows that improvement policies must explicitly target the bottom of the distribution rather than the mean alone. On the other hand, countries with a high 90th percentile already have institutions and practices within them that produce good results, the analysis of which can inform policy.



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## SECTION 2

# Description of the levels of the proficiency scales and typology of countries

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The PASEC2024's proficiency scales make it possible to give tangible content to the performance of students at the end of lower secondary school, by describing, for each level, the knowledge and abilities that they are able to mobilise in reading and mathematics. These levels are hierarchical so that a student who has performance characteristic of one level is also able to succeed in the tasks of the lower levels. In other words, the lower levels of the scale for a discipline require less complex tasks than those of the higher levels. The reading scale has four levels and the mathematics scale has five levels.

The analysis of the distribution of students between these different levels makes it possible to assess the diversity of the levels of mastery within the education systems and to identify the proportion of students who reach the baseline level of proficiency retained.

A comparison of the distributions between countries also makes it possible to identify some typical profiles, depending on the way in which their students are distributed on the different levels of the scales.

About two-thirds of students remain below the minimum proficiency level in reading.

**Table 2.1**

### PASEC2024 proficiency scale in reading – reading comprehension – end of lower secondary school

| Levels                               | Scores                     | Distribution of students in the levels of the scale | Description of skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------|----------------------------|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Level 4</b>                       | 633 points                 | 11.1%                                               | The student can construct an in-depth understanding of texts of various genres, including narrative, descriptive, argumentative, and explanatory. The student simultaneously uses explicit and implicit information, establishes relationships between sometimes distant elements in the text, and makes complex inferences. The student interprets the text taking into account the author's point of view, the communication intentions, the feelings of the characters and the processes used to construct meaning. The student is able to integrate different information in order to produce a comprehensive, nuanced and coherent understanding. |
| <b>Level 3</b>                       | Between 540 and 633 points | 21.6%                                               | The student understands texts of various genres and independently uses explicit and implicit information to construct the meaning of the text. The student makes simple inferences on a regular basis and succeeds in some of the more complex inferences that require linking several pieces of information that are sometimes far apart. The student begins to interpret the text by identifying the intentions, feelings or certain characteristics of the characters, even if these interpretations remain limited to the most accessible situations.                                                                                              |
| <b>Baseline level of proficiency</b> |                            |                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Level 2</b>                       | Between 436 and 540 points | 38.3%                                               | The student understands explicit information present in simple texts belonging to different genres and is able to establish direct links between related information in order to produce simple inferences. The student begins to interpret certain elements when they are strongly suggested by the text. On the other hand, inferences that require reconciling multiple separate pieces of information or using implicit knowledge remain fragile.<br>This level corresponds broadly to the minimum skills expected at the end of primary school and constitutes the first level of mastery allowing an independent reading of simple texts.        |
| <b>Level 1</b>                       | 436 points                 | 29.0%                                               | The student locates and reproduces information explicitly formulated in short, simple and familiar texts, mainly of a descriptive or narrative nature. The student understands the overall meaning when information is directly accessible and highly contextualised. On the other hand, the student has difficulty establishing links between several pieces of information or producing even simple inferences. The student's comprehension skills remain below the minimum skills expected at the end of primary school.                                                                                                                            |



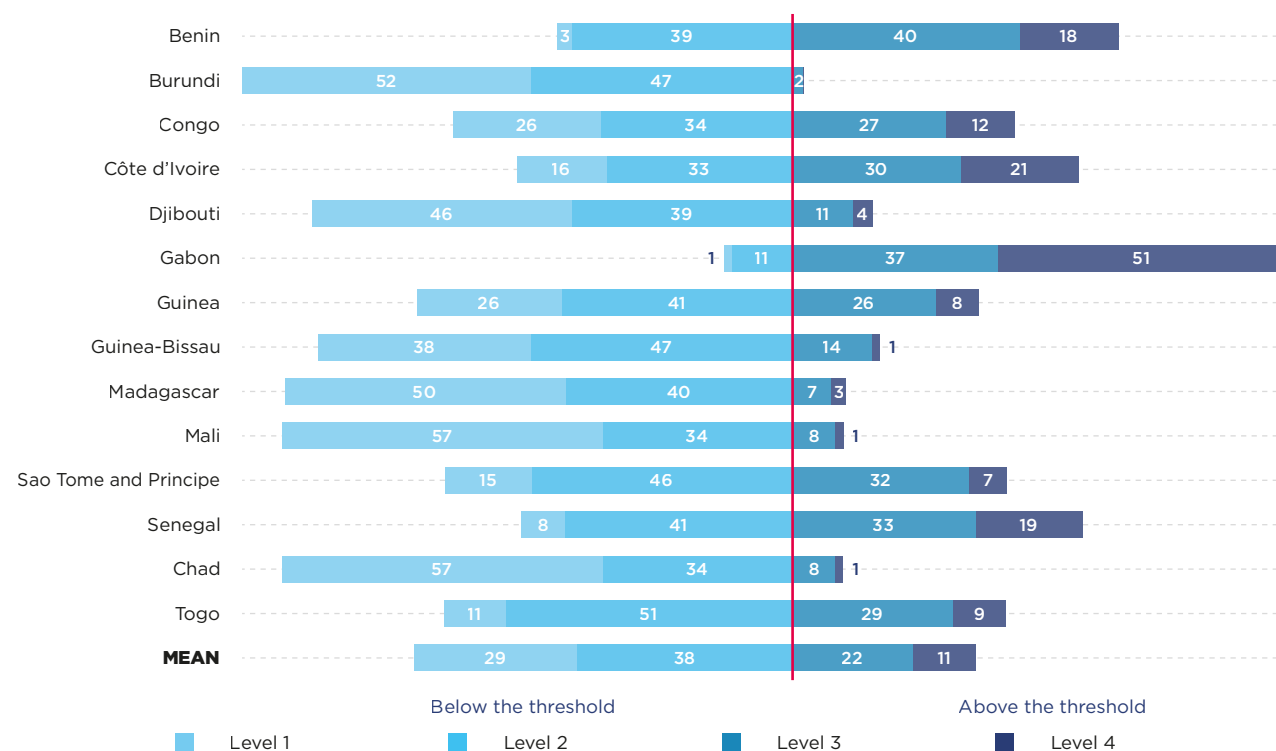
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**Figure 2.1****Distribution of students by country in the four levels of reading proficiency – end of lower secondary school**

How to read: the bars are aligned on the vertical line, which represents the baseline level of proficiency. On the left are students who do not reach it (levels 1 and 2); on the right, those who reach or exceed it (levels 3 and 4).

In reading, the results highlight a major challenge at the end of lower secondary school: internationally, fewer than one in three students (32.7%) reach the baseline level of proficiency set by the PASEC2024. However, the situation varies greatly from country to country.

Gabon stands out, with 87.9% of students above the threshold, including 51.2% at the highest level of the scale. Benin (58%), Senegal (51.7%) and Côte d'Ivoire (50.9%) also have a relatively favourable situation, with the majority of their students meeting or exceeding the expected baseline level of proficiency at the end of lower secondary school.

In the other ten countries, the majority of students remain below this threshold. The situation is particularly worrying in Madagascar, Burundi, Mali and Chad, where more than half of students are at level 1, corresponding to skills that remain below those expected at the end of primary school.

These results reveal strong disparities between education systems and show that, in the majority of participating countries, a significant proportion of students complete lower secondary school without mastering the reading skills defined as expected at this level of education.

Table 2.2

## PASEC2024 proficiency scale in mathematics – end of lower secondary school

| Levels                               | Scores                     | %     | Description of skills                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------|----------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Level 5</b>                       | 763 points                 | 1.3%  | <p>The student is able to solve complex mathematical problems. This involves carrying out a multi-step approach, modelling the situation, combining and cross-referencing several relationships or quantities, as well as conducting an elaborate interpretation of the results.</p> <p>In arithmetic and algebra, the student solves complex situations involving modelling, interpreting, and combining several mathematical relationships. In geometry and measurements, the student can solve complex problems involving multiple processing steps, compound shapes, or less direct metric relationships. In statistics, the student can solve a complex problem requiring an elaborate interpretation as well as a relevant and critical selection of available information.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Level 4</b>                       | Between 637 and 763 points | 7.9%  | <p>The student is able to coordinate several pieces of knowledge, properties or procedures. The student knows how to select the appropriate method, strategy or representation to deal with, organise and solve a simple mathematical situation.</p> <p>In arithmetic and algebra, the student can choose a suitable method for dealing with equations, proportional relations, algebraic expressions, or simple functions. In geometry, the student uses several properties or representations in order to solve a more complex spatial situation (select a relevant relationship and organise a resolution process). In measurements, the student can combine different quantities, shapes or formulas and selects a suitable strategy to solve a simple problem. In statistics, the student can process or interpret data by comparing, calculating or organising information from tables or graphs.</p>                                                                                                                                                                                                                                                                                                                                |
| <b>Level 3</b>                       | Between 569 and 637 points | 13.4% | <p>The student is able to use several pieces of mathematical knowledge or procedures in less direct situations requiring an analysis of information, a connection of concepts or simple modelling. The student selects the most appropriate approach from several possible procedures and adapts the knowledge to various mathematical contexts.</p> <p>In arithmetic and algebra, the student interprets and constructs algebraic expressions, manipulates more complex expressions, uses linear or affine functions, and uses proportionality in situations requiring several steps of reasoning.</p> <p>In geometry, the student applies theorems, performs or interprets transformations, uses geometric properties to determine missing data, and implements deductive reasoning in plane or spatial configurations.</p> <p>In measurements, the student solves problems involving compound shapes or various solids, chooses and combines suitable formulas, and interprets the results obtained in context.</p> <p>The proposed tasks require a deeper understanding of mathematical relationships, a certain autonomy in the choice of procedures and an ability to link different concepts within the same problem-situation.</p> |
| <b>Baseline level of proficiency</b> |                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Level 2</b>                       | Between 472 and 569 points | 35.2% | <p>The student is able to use fundamental mathematical knowledge, procedures and formulas in direct or familiar situations. The student performs simple numerical and algebraic calculations, applies common measurement formulas, interprets common graphical representations and solves problems whose approach is explicit or immediately identifiable.</p> <p>In arithmetic and algebra, the student uses simple algebraic expressions to represent a situation, performs proportionality calculations, expands or reduces elementary expressions, and applies common numerical relations.</p> <p>In geometry and measurements, the student calculates perimeters, areas, and volumes of common shapes or solids, applies simple geometric properties, determines coordinates or distances in the plane, and uses known metric relationships when the necessary data is directly accessible.</p> <p>In statistics, the student extracts and interprets information from common tables, diagrams or graphs.</p> <p>The proposed tasks essentially require the correct application of a known procedure or an appropriate formula in a low-complexity context.</p>                                                                       |
| <b>Level 1</b>                       | 472 points                 | 42.2% | <p>The student is able to recognise, read and use simple and directly accessible notions, properties or information in direct tasks. The student can perform a basic calculation, identify an obvious relationship, or apply a very short procedure in a familiar and visual situation.</p> <p>In arithmetic and algebra, the student recognises and uses simple numerical or algebraic notions in direct tasks (direct calculation, simple relationship, short procedure in a familiar situation). In geometry, the student recognises and uses simple geometric properties related to shapes, angles, solids or directly visible spatial relations. In measurements, the student can use units or directly apply a simple formula when the data are explicit. In statistics, the student reads and extracts explicit information directly in tables or simple graphical representations.</p>                                                                                                                                                                                                                                                                                                                                             |



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77.4% of students are at levels 1 and 2 of the proficiency scale; this means that more than three quarters of students at the end of lower secondary school do not reach the baseline level of proficiency in mathematics defined in the framework of the PASEC2024.

In mathematics, reaching the expected baseline level of proficiency at the end of lower secondary school is a major challenge in most of the participating countries. Only Benin and Burundi have a majority of students meeting or exceeding this threshold.

In all other countries, the majority of students are below, ranging from 59.8% in Togo to 99.2% in Sao Tome and Principe. The situation is particularly worrying in Djibouti, Sao Tome and Principe, Mali, Chad and Guinea-Bissau, where more than half of students are at level 1 of the scale. In Chad and Guinea-Bissau, the proportion reached 79% and 87.5%, respectively.

The results also show that obtaining a relatively high mean score does not necessarily mean that a majority of students have mastered the skills expected at the end of lower secondary school: Togo, Senegal, Gabon, Madagascar and Guinea have a mean score higher than the international mean of 500 points, while counting a majority of students below the baseline level of proficiency.

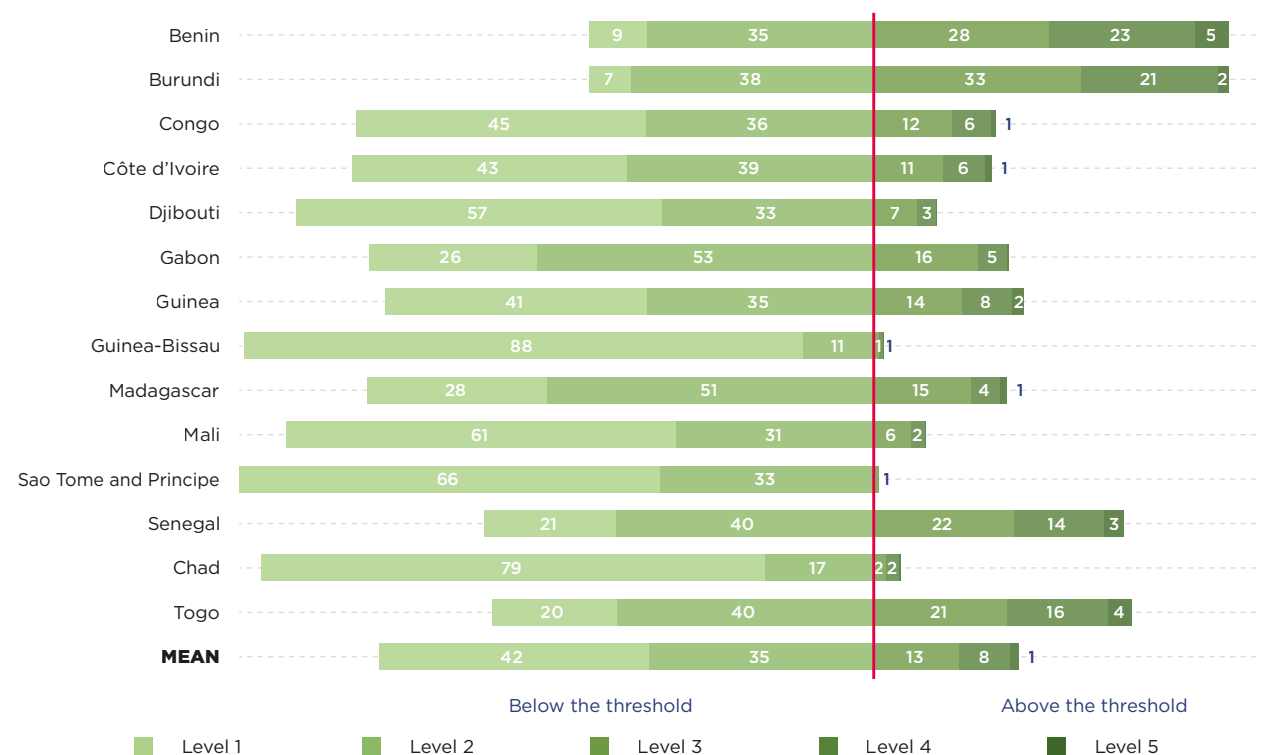
Overall, these results highlight important challenges in the acquisition of the mathematical skills expected at the end of lower secondary school, as well as strong disparities between education systems.

At the end of lower secondary school, a large majority of students in sub-Saharan Africa have not yet acquired the skills expected to continue their education in good conditions: 67% in reading and 77% in mathematics are below the baseline level of proficiency. In some countries, this situation concerns almost all students.

More than three quarters of students at the end of lower secondary school do not reach the baseline level of proficiency in mathematics.

 **Figure 2.2**

### Distribution of students by country and by level of proficiency in mathematics



How to read: the bars are aligned on the vertical line, which represents the baseline level of proficiency. On the left are students who do not reach it (levels 1 and 2); on the right, those who reach or exceed it (levels 3, 4 and 5).

### SECTION 3

# Disparities within education systems

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Beyond the differences observed between countries, the results of the PASEC2024 reveal significant disparities within education systems. Students' learning opportunities and performance remain associated with their social background, where they go to school, the type of school they attend, and the resources they have access to. However, these disparities do not take the same form or magnitude depending on the country. The gaps between girls and boys appear to be more limited overall, while differences related to social background and education conditions are often more pronounced. The results thus show that learning inequalities result less from an isolated factor than from the accumulation of several conditions that can promote or, on the contrary, weaken educational pathways.

## Social background remains strongly associated with the possibility of success

**Social background continues to weigh heavily on learning, particularly in reading.** In almost all countries, students from the most advantaged backgrounds perform better in reading than those from the least advantaged backgrounds. However, the extent of these differences varies greatly from one education system to another, which shows that they are not inevitable. Social inequalities are less pronounced in mathematics than in reading. These results suggest that educational policies have significant room for action to reduce the weight of social origin on learning.

## The place where students are educated can have a strong impact on their learning

**Students in rural areas often remain at a disadvantage, but a significant part of this gap is related to the conditions in which they are educated.** In reading, significant differences between urban and rural students are observed in 11 of the 14 countries. In several countries, these gaps are greatly reduced, or even disappear, when comparing institutions with similar infrastructure conditions and resources. Territorial disparities, therefore, do not only refer to the fact of living in rural or urban areas: they also reflect an unequal distribution of resources and learning conditions between territories.

## Private school students often achieve better results, but the gap is not just a matter of the school status

**Students in private schools generally perform better than those in the public sector, but this advantage is partly explained by differences in resources and social composition.** In 11 out of 13 countries, significant gaps between the public and private sectors are observed in both disciplines. However, a sometimes significant part of these gaps decreases when we take into account the material conditions of the schools and the social background of the students. Public or private status is, therefore, not enough on its own to explain the differences in performance: the student populations served and the actual learning conditions also play an important role.

PASEC2024 results reveal significant disparities within education systems.

## The gaps between girls and boys remain small overall, but a female disadvantage appears more in mathematics

**The performance gaps between girls and boys are generally small at the international level, but some differences appear between disciplines and countries.** On average, girls are slightly ahead of boys in reading, while boys have a slight advantage in mathematics.

The latter is more regularly observed depending on the country: seven countries have a significant gap in mathematics, always to the disadvantage of girls, while none has a significant advantage in their favour. However, these gaps remain of a much smaller magnitude than certain disparities linked to social origin or education conditions.



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## Basic resources and learning opportunities remain very unevenly distributed

**Not all students benefit from the same conditions for learning.** In the participating countries, only 61.1% of students report having a reading textbook and 52.9% a mathematics textbook. Inequalities sometimes concern even more basic resources: nearly one in four students say they do not have a pencil or pen and about one in six do not have a notebook. The conditions of supervision are also very contrasted: more than one in two students are educated in a class of more than 40 students and one in ten in a class of more than 80 students. These differences show that the material conditions in which students are asked to learn remain very unequal.

## Inequality also relates to the effective exposure to learning and to teachers' professional resources

**The disparities do not only concern the equipment: they also concern the actual possibilities of learning and the conditions in which teachers work.** On average, one-third of students have a teacher who says they did not complete the previous year's curriculum. Some students may thus reach the end of a school year without having been exposed to all the planned content. In addition, access to professional resources is unequal: pre-service training, in-service training, experience, team stability and pedagogical support differ greatly between systems and institutions. In particular, the



data show that in-service training does not systematically compensate for the deficits in pre-service training. Reducing learning inequalities therefore means acting both on the resources available to students and on the conditions that allow teachers to develop and use their skills.

Educational inequalities are often built by accumulation: the least socially advantaged students may also attend the least endowed schools and benefit from less favourable learning conditions. Reducing performance gaps, therefore, means prioritising students and schools that combine several forms of disadvantage, rather than dealing with each factor of inequality separately.



**ONE IN TEN  
STUDENTS IS IN A CLASS  
OF MORE THAN  
80 students**



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## SECTION 4

# Resources committed and results achieved

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Improving learning requires sufficient resources, equitable distribution and efficient use of these resources. For the countries participating in the PASEC2024, the challenge is, therefore, to link budgetary trade-offs to the needs of students and the desired results. The analysis invites us to examine the chain that goes from public resources to the resources actually available in schools, and then to the mastery of minimum skills.

Education funding is subject to international benchmarks associated with the implementation of SDG 4. The Education 2030 Framework for Action, adopted in the wake of the Incheon Declaration, calls on states to spend at least 4% to 6% of gross domestic product (GDP) and/or 15% to 20% of total public expenditure on education (UNESCO, 2016). These values constitute international reference points for assessing the financial effort made in favour of education and the priority given to the sector in budgetary trade-offs.

The most recent data available show that between 2023 and 2025, the countries participating in the PASEC2024 made budgetary efforts in favour of their education systems. These budgetary efforts are expressed through two indicators: 1) percentage of education expenditure in relation to GDP and 2) percentage of education expenditure in total public expenditure, which vary from one country to another. Considering the share of education expenditure in GDP, 5 countries out of 16 (Burundi, Mali, Sao Tome and Principe, Senegal and Togo – 31.3%) spent at least 4% of their GDP on education expenditure between 2023 and 2025. Senegal, in particular, has devoted 6.2% of its GDP to education, thus exceeding the upper limit of the Incheon benchmark of education expenditure as a percentage of GDP as adopted in the Incheon Declaration. With regard to the national budget, 8 countries out of 16 (Benin, Côte d'Ivoire, Guinea-Bissau, Madagascar, Mali, Sao Tome and Principe, Senegal and Togo – 50%) of the countries participating in the PASEC2024 have devoted at least 15% of their national budget to education. Senegal has spent more than 20% of national spending (22.5%) on education.

## Budgetary effort and learning in reading and mathematics in lower secondary school

A relationship between public expenditure on education as a percentage of GDP and the percentage of students achieving at least the minimum proficiency level in reading reveals significant disparities between the participating countries. Some systems, notably Gabon, Benin, Côte d'Ivoire and Congo, perform above the median despite spending below the benchmark of 4% of GDP. Conversely, Burundi and Mali spend at least 4% of their GDP on education while performing below the median. These results show that a high level of funding does not automatically translate into better learning and underline the importance of the conditions for allocating and using resources. Four configurations emerge.

### Low funding and poor performance

Guinea, Guinea-Bissau, Madagascar, Chad and Djibouti combine a level of public expenditure on education of less than 4% of GDP and a proportion of students reaching the baseline level of proficiency below the median of the countries considered. This reflects the dual challenge of mobilising resources and transforming them into learning. However, the situations are far from identical: Guinea is relatively close to the performance median despite funding well below 4%, while Guinea-Bissau, Madagascar and Chad have much lower levels of performance.

### High funding and low performance

Mali and Burundi are characterised by spending above 4% of GDP but performing below the median: this configuration most directly calls for questions about the transformation of resources into learning. The contrast is particularly marked for Burundi, where the proportion of students above the

baseline level of proficiency appears very low despite a level of funding above the benchmark of 4%.

### High funding and high performance

Senegal is the most representative case with a funding level well above 4% of GDP, more than 6%, that is associated with a percentage of students above the baseline level of proficiency above the median. Togo and Sao Tome and Principe are also located above the two benchmark lines, but much closer to the performance median.

### Low funding and high performance

Gabon, Benin, Côte d'Ivoire and Congo have a particular configuration: their spending is below the benchmark of 4% of GDP while their performance is above the median. Gabon stands out, with about 2% of GDP devoted to education and nearly 88% of students above the baseline level of proficiency.

Analysis of the relationships between education expenditure as a percentage of GDP and learning outcomes in mathematics shows certain heterogeneities in the relationship between the public effort to finance education and learning. Among countries whose public expenditure on education is below the benchmark of 4% of GDP, some, such as Benin and Guinea, have a share of students achieving the minimum proficiency level above the median of the countries concerned, while others are significantly lower. Similar heterogeneity emerges among countries that spend at least 4% of their GDP on education: Burundi, Togo, and Senegal perform above the median, while Mali and Sao Tome and Principe perform below.



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## Expenditure on lower secondary education and learning in reading and mathematics

The relationship between expenditure on secondary education, expressed as a percentage of GDP, and the proportion of students whose performance is above the minimum proficiency level in reading and mathematics gives the following profiles:

In reading, the distribution suggests an overall positive association between financial effort and academic performance. Several countries above the expenditure median also show higher levels of performance, such as Benin, with around 58%, Côte d'Ivoire and Senegal, around 51 to 52%, and especially Gabon, close to 88%, far superior to the other countries represented. These results are consistent with the hypothesis that higher public investment can contribute to better educational outcomes, but they are not sufficient to establish a causal relationship.

However, the relationship remains imperfect. Sao Tome and Principe has a higher than median level of expenditure, but a lower performance.

Djibouti, Chad, Madagascar, Guinea, Guinea-Bissau, Mali and Togo are simultaneously below the two medians, a profile of low relative expenditure associated with limited school performance. Chad and Mali appear to be among the most unfavourable situations, with a performance close

to 9%, while Guinea and Togo are close to the performance median. Their position suggests a twofold challenge: increasing resources devoted to education and improving their transformation into learning outcomes.

In mathematics, the association remains positive, but limited. Benin and Senegal spend a relatively high share of their GDP on secondary education and have an above-median proportion of students, with Benin being the most favourable case, with about 55% compared to nearly 39% for Senegal. Gabon is also above the two medians, but by just over 20%, showing that expenditure alone does not explain the results achieved.

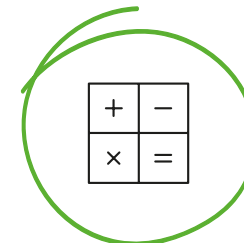
Djibouti, Chad, Mali and Guinea-Bissau have a relatively low budgetary effort and a low proportion of students exceeding the minimum proficiency level. The weakest performers are Chad and Guinea-Bissau, close to 4% and 1%, with Djibouti and Mali reaching around 10% and 8%.

Spending more than the median does not guarantee superior performance. Côte d'Ivoire spends about 0.8% of GDP for a performance of about 18.4%, Sao Tome and Principe 0.9% for a very low performance, around 1%, and Congo has the highest expenditure, close to 1.7%, for a performance at the median level. The efficiency of resources, their allocation and the conditions for implementation therefore also seem to be decisive. Togo, on the other hand, is close to the median in spending, but has achieved a performance of around 40%, higher than the median. Some countries can achieve comparatively high results with a moderate budgetary effort.



# 50%

OF PARTICIPATING COUNTRIES  
DEVOTED AT LEAST **15% OF  
THEIR NATIONAL BUDGET  
TO EDUCATION**



# 31%

OF PARTICIPATING COUNTRIES  
DEVOTED AT LEAST  
**4% OF THEIR GDP TO  
EDUCATION EXPENDITURE**



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## Courses of action to improve efficiency

The main challenge is not only to increase spending on education, but to achieve more learning with the resources used. An increase in the budget will only produce lasting results if it effectively improves the quality of teaching, learning time and access to educational resources.

### KEY FINDINGS

- 1 Djibouti is the only country that is fully efficient. However, its absolute scores remain low. Efficiency should, therefore, not be confused with a high level of academic success.
- 2 Benin and Togo are on the radial frontier, performing well for relatively low levels of funding, but they still have available resource margins. They offer practices to study, without being perfect models.
- 3 Mali and Chad have the greatest room for improvement. Their priority is to increase results in reading and mathematics with the resources already used.
- 4 Congo and Sao Tome and Principe need to improve the transformation of their resources into results, as their expenditures are relatively high in relation to their performance.
- 5 Senegal and Côte d'Ivoire are close to the threshold, but their available resource margins are significant. The main issue is, therefore, the targeting and productivity of spending, rather than an automatic increase in budgets.

### PRIORITIES FOR ACTION

- 1 **Moving from a logic of means to a logic of results.**  
Any increase in funding should be associated with measurable goals in reading and mathematics that are monitored regularly.
- 2 **Targeting spending with a high educational impact.**  
Resources must be prioritised to finance the presence and training of teachers, textbooks, learning time, formative assessments and support for students in difficulty.
- 3 **Re-examine expenditure items with available margins.**  
An available margin does not mean that the budget must be abolished, but that part of the resources may be poorly allocated. Potential savings must be redirected towards learning rather than withdrawn from the sector.
- 4 **Implement differentiated plans.**  
Mali and Chad need a plan to improve results; Congo and Sao Tome and Principe, an audit of resource allocation; Senegal and Côte d'Ivoire, a review of expenditure productivity; Benin and Togo, consolidation of their effective practices; Djibouti, improvement in performance while maintaining budgetary discipline.
- 5 **Organise learning between countries.**  
Countries on the threshold can provide useful examples, but practices need to be adapted to the national context.



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## SECTION 5

# What these results imply for action

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## Act across the entire learning continuum

The results of the PASEC2024 show that the difficulties observed at the end of lower secondary school cannot be dealt with solely at this level of education. They are largely part of the continuity of fundamental learning that is insufficiently consolidated during the previous stages of education, particularly in primary school. These weaknesses then limit the students' ability to use the more complex knowledge and skills expected in lower secondary school.

The challenge is, therefore, to build continuous action throughout the student's school pathway by making the effective mastery of fundamental learning a priority of educational management. This means better coordination between primary and lower secondary school, diagnosing what has been learned at the start of lower secondary school and intervening quickly when difficulties are identified. Remediation must thus become an ordinary component of the school's operations, articulating prevention, targeted support and strengthened support according to the extent of the difficulties.

This approach also requires changes in how education systems are steered. Learning improvement depends not only on the volume of resources used, but also on their allocation and their ability to produce effective learning. Policies must, therefore, jointly seek quality of learning, efficiency in the use of resources and equity in their distribution, paying particular attention to the most vulnerable students, schools and territories.

## Courses of action focused on learning, equity and efficiency

Based on these observations, several priority courses of action emerge:

### 1. Secure fundamental learning and the transition from primary to lower secondary school

Education systems would benefit from clearly establishing the essential outcomes expected at the end of primary school, from regularly monitoring their mastery and from organising better continuity with lower secondary school. A diagnosis of fundamental skills at the start of lower secondary school would make it possible to quickly identify difficulties and guide pedagogical responses.

### 2. Embed early remediation in the ordinary functioning of schools

Diagnostic assessments must lead to tangible responses: consolidation periods, needs-based groups, differentiated teaching, tutoring, individualised support or strengthened systems for students with the most persistent difficulties. The objective is to move from late remediation to a logic of prevention and early intervention.



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### 3. Strengthen learning in reading and mathematics

In reading, teaching should make the processes of comprehension more explicit, in particular the identification of important information, inferences, the articulation between explicit and implicit information, as well as the analysis of theses and arguments. In mathematics, interventions should target the content and prerequisites that are effectively deficient in each system and consolidate the knowledge necessary before the introduction of more complex concepts.

### 4. Improve the quality of teaching and support for teachers

Pre-service and in-service training should strengthen teachers' ability to identify students' prerequisites and mistakes, differentiate their teaching, use diagnostic assessments and implement appropriate remediation strategies. Assessment must become more of a tool for learning and the adjustment of pedagogical practices.

### 5. Better allocate resources and target them according to needs

The results point to the need to go beyond an approach focused solely on the volume of expenditure. Resources should be more oriented towards factors directly related to learning, including teacher training and effective presence, pedagogical support, essential textbooks and resources, effective learning time and support systems. Their allocation should also take into account the differentiated needs of students, schools and territories.

### 6. Make equity an explicit objective of steering

The improvement in the national mean is not enough if it is accompanied by continued strong disparities. Performance monitoring should, therefore, include the proportion of students below the minimum proficiency level as well as the differences related to socio-economic background, schools and territories. The most vulnerable students and contexts must be supported in proportion to their needs.

### 7. Better steer policies based on data and contexts

National and international assessments should feed into a continuous cycle of diagnosis, response, monitoring of progress and policy adjustment. However, responses must remain differentiated based on country profiles: a common base can be established around fundamental learning, diagnosis and remediation, while specific interventions must be adapted to the difficulties particular to each system.

In short, the results of the PASEC2024 invite us not so much to oppose an increase in resources and the search for efficiency as to ensure that **each resource used effectively contributes to learning** and that **the students who encounter the greatest difficulties benefit from support commensurate with their needs**. Reducing disparities in lower secondary school in the long term, therefore, requires acting early enough, securing fundamental outcomes, ensuring the continuity of the school career and better transforming educational resources into effective learning.

### Box

#### Scope and limitations of results

*What the measure allows us to affirm, and what it does not*

**The differences shown are associations, not effects.** The assessment observes students and teachers at a given time, without an experimental design and without following the same children over time. When this report indicates that one group performs better than another, it describes an observed difference; it does not establish that the characteristic distinguishing these groups is the cause.

*What the assessment does not observe*

**Only students who are in school and present on the day of the test are assessed.** Children who do not go to school, have left school or are absent are not represented. In systems where access to and retention in school are the lowest, the population tested is therefore the most often selected.

**The assessment focuses on two disciplines, at a specific moment in the pathway.** It does not say anything about other learning.

**Context data are self-reported.** Students, parents, teachers and school principals answer for themselves.

*What limits comparisons*

**The levels assessed are not on a common scale.** A score at the start of education, a score at the end of education and a score at the end of basic education are not comparable with each other, nor are the levels of teachers and students, who belong to different populations and tests.

**Comparisons over time only concern countries that have participated in several cycles and whose data have been validated.** The others are excluded from the trend analyses and indicated as such.



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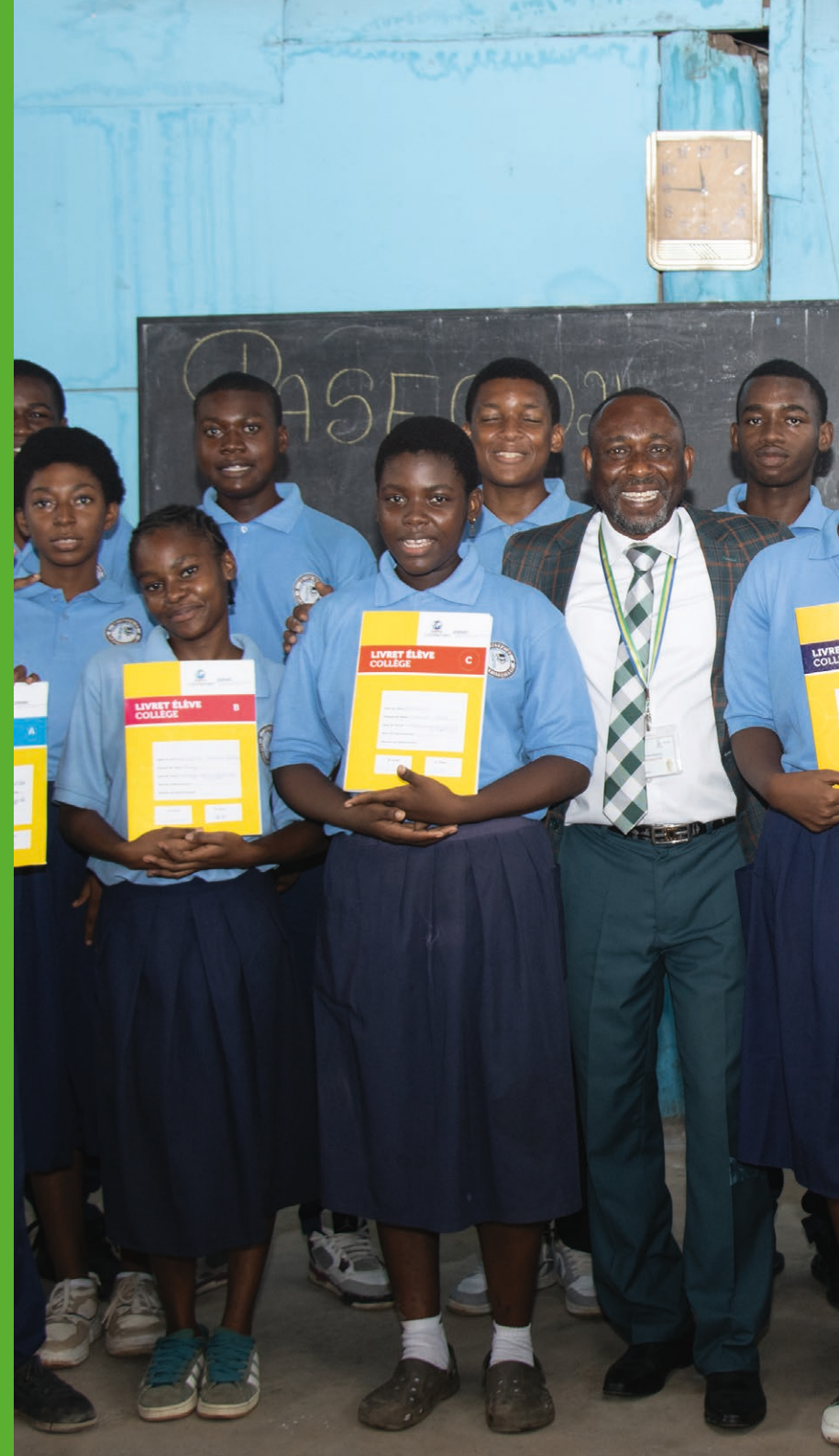
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# Assessment methodology

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## WHAT PASEC MEASURES AND WHAT IT DOESN'T MEASURE

Tests for students are constructed from three main sources: scientific knowledge on learning to read and mathematics, common areas of the participating countries' curricula, and international standards for measuring learning outcomes. They are not intended to directly assess the degree of mastery of the national curricula, but to measure a common base of knowledge and skills essential to the continuation of learning. The PASEC assessment is thus an external, international and complementary measure to national assessments: it provides countries with comparable benchmarks to assess students' achievements, monitor their evolution over time and inform educational policies.

The PASEC2024 survey aims to assess the effectiveness, the equity and, indirectly, the efficiency of the education systems of the participating countries. It measures students' achievements in the language of instruction and mathematics at three stages of the school career: the start of primary school, the end of primary school and the end of basic education. It also includes, for the second time after PASEC2019, a survey of primary school teachers, as well as four context questionnaires sent to students, parents, teachers and school principals.

The PASEC methodology is based on the collection of standardised data from representative samples of schools and students. Tests measure students' achievement, while contextual questionnaires document the characteristics of students, families, teachers, classes, schools, and learning environments. Cross-referencing this information with test results makes it possible to identify the school and out-of-school characteristics associated with learning.

The three concepts that structure the reading of the results need to be understood through the prism of the characteristics and objectives of the survey. An education system is considered effective when it enables the greatest number of students to acquire the knowledge, skills and attitudes expected at the different stages of their school career; equitable when it tends to reduce the gaps in education, progress and achievement between students, regardless of their gender, social origin, language, place of residence, region or type of school attended; and efficient when it is able to transform in an optimal way the financial, human, material and organisational resources at its disposal into quality learning outcomes. In this report, effectiveness is assessed on the basis of tests, equity on the basis of cross-referencing performance with the characteristics of students and schools, and efficiency indirectly, by comparing the results with data on education funding.

## THE SCOPE OF THE ASSESSMENT AND THE CONTENT OF THE TESTS

In addition to students, the assessment questions primary school teachers, school principals and, for the first time, students' parents, in order to shed light on the conditions in which teaching and learning take place. At the beginning of primary school, the tests are individual and oral, about 30 minutes per subject; at the end of primary school and lower secondary school, they are collective and written, mainly multiple-choice, and last a maximum of two hours per subject. As the volume of questions exceeds what a student can process, four booklets are randomly distributed in each class.



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The tests for primary school teachers are based on an explicit principle: a primary school teacher must master the content corresponding to the expected exit profile of students at the end of the cycle, regardless of the class in which he or

she works. They assess two distinct aspects: mastery of the content itself, and the didactics (extracting the objectives targeted by a learning situation, choosing an exercise consistent with an objective, identifying and interpreting the

error in a student’s production). It is the comparison of these two dimensions that makes the teachers’ survey unique.

| Assessed population                      | Reading/language of instruction                                                                                                        | Mathematics                                                                           |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Students – start of primary school       | Listening comprehension, reading-decoding, reading comprehension                                                                       | Arithmetic; geometry, space and measurement                                           |
| Students – end of primary school         | Comprehension of narrative texts, informative texts and documents                                                                      | Arithmetic, quantities and measurements, geometry                                     |
| Students – end of lower secondary school | Comprehension of narrative, descriptive and argumentative texts, from identifying explicit information to inference and interpretation | Arithmetic and algebra, measurement, geometry, statistics                             |
| Primary school teachers                  | Mastery of the language, access to the meaning of the text, structures of the language; didactics of reading comprehension             | Arithmetic, quantities and measurements, geometry and space; didactics of mathematics |
| Lower secondary school teachers          | Socio-demographic characteristics and teaching conditions, with no subject testing                                                     |                                                                                       |
| School principals                        | Primary and lower secondary school: socio-demographic characteristics, teaching conditions and school characteristics                  |                                                                                       |
| Students’ parents                        | Family context                                                                                                                         |                                                                                       |

## NUMBER OF COUNTRIES, SCHOOLS AND STUDENTS

| Level assessed                | Country | Schools/ institutions | Students assessed | Participation rate (min.-max.) |
|-------------------------------|---------|-----------------------|-------------------|--------------------------------|
| Start of primary school       | 16      | 1,946                 | 27,004            | 85.8%-98.4%                    |
| End of primary school         | 16      | 3,892                 | 86,352            | 82.4%-99.7%                    |
| End of lower secondary school | 14      | 2,383                 | 57,164            | 74.6%-92.9%                    |
| TOTAL                         | 16      | 6,275                 | 170,520           | –                              |

Tests are conducted in English, French, Portuguese, Arabic and nine national languages. Language versions follow four steps: double independent translation, reconciliation, verification by a specialised agency and national validation.



## HOW THE RESULTS WERE PRODUCED

The instruments were field-tested in April-May 2024 and the final collection took place between April and June 2025. The cycle retains the name “PASEC2024”, which refers to its five-year programme, but the trend analyses are based on the actual years of collection: 2014, 2019 and 2025.

The results produced are not the result of an improvised operation. They result from a rigorous scientific approach, in accordance with international standards and controlled at each of their stages. From the design of the tests to the production of the scores, each link in the chain is subject to successive verifications, shared by all the participating countries and controlled by the PASEC scientific committee.

### 1. Tests anchored in the school curricula

The questions asked of the students are not developed at random: they are based on assessment frameworks built on the basis of the school curricula common to the participating countries and international expectations. Each question is written by educational experts and then reviewed collectively to ensure clarity, relevance and equity. Before the final assessment, all questions are tested with a sample of the targets considered, during a cognitive laboratory and then a field trial, which makes it possible to discard ambiguous or poorly calibrated questions and to retain only those whose quality is proven.

### 2. A representative sample from each country

It is not necessary to assess all students in a country. PASEC selects a scientifically constructed sample, according to precise statistical rules that ensure that the schools and students selected accurately reflect the diversity of the national education system: urban and rural, public, private or community schools, all regions of the country. The sample is based on the exhaustive list of schools under the authority of the Ministry, which is subject to a meticulous upstream control intended to rule out duplicates, erroneous identifiers and suspicious enrolments. This rigour ensures that the results are valid for the whole country, and not just for a few schools.

### 3. Supervised collection and verified data

The assessment follows standardised procedures that are identical in all countries, so that the assessment conditions are comparable; the administrators are trained in them. In addition to the oversight exercised by the national teams, independent observers are deployed in the field to ensure compliance with procedures, observe the work of the administrators and report any shortcomings without delay. The answers collected are then entered and checked by PASEC: any missing or dubious data is identified at this stage.

### 4. Data cleaning validated with the national teams

The data are subject to in-depth consistency checks within each database and between the student, teacher and principal databases. Inconsistencies are examined and corrected in close consultation with the national teams, on the basis of the documents actually returned from the field: no data is modified without justification or verification.

### 5. An analysis that ensures fair and comparable measurement

Finally, a psychometric analysis takes place to verify the quality of the measurement. It ensures that each question effectively measures the targeted skill and that it behaves fairly for all groups of students, regardless of their gender, background or language of instruction. This makes it possible to transform the answers into accurate, valid and comparable scores from one country to another as well as from one edition to another. The comparison between editions is based on anchor items, which are questions common to two editions that serve as shared reference points.

A final operation conditions the reading of the figures. Each student is given a weighting, equal to the number of students in the population he or she represents, that takes into account the probabilities of being drawn at each stage and corrects for non-responses. All the results are calculated on the basis of these weighted data: they describe the entire population enrolled at the level in question, and not just the students surveyed.



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# FROM SCORES TO PROFICIENCY LEVELS, AND THE MASTERY THRESHOLD

Measuring is not enough. It is still necessary to indicate what the students really know how to do. This is the role of the proficiency scales, which divide the performance continuum into successive levels, each with a descriptor stating the tasks that students at this level can perform. An intermediate-level student will be able to identify explicit information in a short text; a higher-level student will be able to infer implicit information or link several passages of the same text. The score indicates where the student stands, the descriptor indicates what he or she can do. This correspondence makes the results usable: it allows decision-makers to discuss skills rather than ranks, and indicates to the teacher what still must be consolidated.

On each scale, a minimum proficiency level distinguishes students who have mastered fundamental learning from those who have not yet mastered it. This is the central measure of the report: the share of students above this threshold tells a decision-maker more than the mean score, because it relates to students and not to a scale. This threshold is also compared with the minimum global level used to monitor Sustainable Development Goal 4, target 4.1.1, which makes it possible to situate the results of PASEC in the context of international learning monitoring.

# WHAT IS COMPARABLE AND WHAT IS NOT

The standardisation of instruments and procedures makes comparisons possible. The table below sets out the limits within which the results can be compared with each other.

| What can be compared                                                                                              | What cannot be compared                                                                                                                                                     |
|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Countries among themselves, at the same level and in the same discipline.                                         | The three levels amongst themselves: the tests and scales differ; a score at the end of primary school and a score at the end of basic education are not on the same scale. |
| The evolution of the same country between 2014, 2019 and 2025, thanks to anchor questions.                        | Countries that did not participate in all three cycles or that do not have data on two cycles are excluded from the trend analyses.                                         |
| Groups of students from the same country: girls and boys, urban and rural, public and private, social conditions. | The level of teachers and students: two distinct populations and two distinct tests, with no common scale.                                                                  |
| PASEC results from one cycle to the next.                                                                         | The results of the PASEC with those of another international assessment or national examination, which do not measure the same thing or on the same population.             |



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## Assessing learning to transform education policies

Established in 1991, CONFEMEN's Programme for the Analysis of Education Systems (PASEC) has become the reference instrument for steering the education systems of CONFEMEN member States and governments. Its purpose is to inform public decision-making by measuring changes in the performance of education systems, in order to guide the design, monitoring and evaluation of education policies and, through them, the improvement of the quality of education.

Its work goes beyond measurement. PASEC strengthens national assessment capacities, promotes the ownership and effective use of results by education stakeholders, and supports the development of education research. Through its assessments and analytical work, it provides decision-makers with reliable and comparable data as well as rigorous analyses, levers for higher-performing, more equitable and more efficient education.

Finally, PASEC contributes to the production of knowledge by supporting researchers and making its data and assessment frameworks available to them. It feeds into work that is useful both to education systems and to the academic community.

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