

Teacher confidence in teaching

Teachers were asked two sets of questions about their confidence in teaching: one set for literacy topics and the other for numeracy topics. The questions were phrased as: 'How do you find teaching the following aspects of literacy/numeracy?'. Their response options were limited to a four-point scale: 'Very difficult', 'Difficult', 'Easy', and 'Very easy'.

Confidence in teaching literacy

For reporting purposes, teachers who responded with 'Easy' or 'Very easy' were considered to demonstrate confidence in teaching a particular topic.

Table TT2.7 shows the percentage of students in Papua New Guinea whose teacher expressed confidence in teaching literacy topics.

Overall, most students in both grade levels had teachers who were confident in teaching literacy topics. In both grade levels, the proportions of students with such teachers ranged from 64% to 95%.

Across both grade levels, areas where a lower proportion of students had teachers who expressed confidence were: phonemic awareness (grade three, 64%; grade five, 68%), letter and sound correspondence (grade three, 70%; grade five, 77%), quality of ideas (grade three, 71%; grade five, 78%), and organisation and structure (grade three, 72%; grade five, 81%).

Areas with the highest proportions of students having teachers who expressed confidence were spelling and punctuation (grade three, 94%; grade five, 95%); vocabulary (grade three, 89%; grade five, 94%); reading comprehension (grade three, 89%; grade five, 94%); grammar and syntax (grade three, 89%; grade five, 91%); and oral language (grade three, 86%; grade five, 95%).

Areas where more students had confident teachers appear to be rules-based subjects or those with more established teaching criteria, such as spelling, punctuation, grammar and vocabulary. Areas where fewer students had confident teachers appear to be in areas with more subjective, or more complex, teaching and assessment criteria, such as quality of ideas and organisation and structure in writing.

Table TT2.7

Percentage of students whose teachers express confidence in teaching literacy

Subject	Grade 3	Grade 5
Vocabulary	89% (3.1)	94% (2.0)
Grammar and syntax	89% (2.6)	91% (2.5)
Spelling and punctuation	94% (1.9)	95% (2.2)
Quality of ideas (writing)	71% (4.2)	78% (3.0)
Organisation and structure (writing)	72% (4.0)	81% (3.6)
Phonemic awareness	64% (4.6)	68% (3.9)
Letter sound correspondence	70% (4.0)	77% (3.7)
Reading comprehension	89% (2.3)	94% (2.1)
Oral language (speaking and listening)	86% (2.9)	95% (2.1)

Percentage of students whose teachers expressed confidence in teaching literacy, PNG, PILNA 2021

() Standard errors appear in parentheses.

The same questions were asked of teachers in the 2018 PILNA cycle and results from both the 2018 and 2021 cycles of PILNA are presented here for comparison in Table TT2.8

Compared with the 2018 PILNA cycle, more students in 2021 had teachers who expressed confidence in teaching literacy across all areas. Every literacy area saw an increase in the proportion of students who had a teacher confident in teaching it. This was true across both grade three students and grade five students, and was most noticeable in the quality of ideas (writing), where grade three students saw an increase of the numbers of teachers expressing confidence from 48% to 71%.

Table TT2.8

Percentage of students whose teachers express confidence in teaching literacy in 2018 and 2021

Subject	2018	Difference	2021
Grade 3			
Vocabulary	 78% (4.9)		 89% (3.1)
Grammar and syntax	 66% (5.1)		 89% (2.6)
Spelling and punctuation	 80% (3.5)		 94% (1.9)
Quality of ideas (writing)	 48% (4.7)		 71% (4.2)
Organisation and structure (writing)	 56% (4.5)		 72% (4.0)
Phonemic awareness	 63% (5.7)		 64% (4.6)
Letter sound correspondence	 72% (4.6)		 70% (4.0)
Reading comprehension	 68% (5.2)		 89% (2.3)
Oral language (speaking and listening)	 73% (5.0)		 86% (2.9)
Grade 5			
Vocabulary	 91% (3.4)		 94% (2.0)
Grammar and syntax	 80% (4.7)		 91% (2.5)
Spelling and punctuation	 83% (4.2)		 95% (2.2)
Quality of ideas (writing)	 66% (5.5)		 78% (3.0)
Organisation and structure (writing)	 66% (5.2)		 81% (3.6)
Phonemic awareness	 67% (5.3)		 68% (3.9)
Letter sound correspondence	 67% (5.3)		 77% (3.7)
Reading comprehension	 79% (4.9)		 94% (2.1)
Oral language (speaking and listening)	 80% (4.6)		 95% (2.1)

Percentage of students whose teachers expressed confidence in teaching literacy in 2018 and 2021, PNG, PILNA 2018, 2021

() Standard errors appear in parentheses.

Confidence in teaching literacy and teacher qualities

A regional scale focused on measuring teachers' confidence in teaching literacy based on teachers' responses was established. Higher scores on this scale indicate higher levels of confidence in teaching literacy. The literacy teaching confidence scores were analysed against teacher demographics (gender, age, teaching experience, and qualification level). The significant findings are listed below.

- Male teachers were significantly more confident in teaching literacy than female teachers.
- No significant difference in confidence teaching literacy was found based on the age, experience or qualifications of teachers.
- Overall, teachers in Papua New Guinea were more confident in teaching literacy compared to the average across the region.

The PILNA scale for teachers' confidence in teaching literacy has an average of 200 and a standard deviation of 40. Most scores are expected to be within 40 points of 200 (160–240). The scale was formed from statistical analysis of the answers to all nine questions that teachers were asked about their confidence in teaching this

Confidence in teaching numeracy

Table TT2.9 shows the percentage of students whose teachers expressed confidence in teaching numeracy topics.















Most students in both grade levels had teachers who were confident in teaching numeracy topics. In both grade levels, the proportion of students with confident teachers in the numeracy topics ranged between 71% and 95%, a slightly higher and narrower range than for literacy topics.

Across both grade levels, the topics where a lower proportion of students had teachers who expressed confidence were 'Geometry' (grade three, 73%; grade five, 83%) and 'Data and chance' (grade three, 71%; grade five, 81%).

Topics with the highest proportions of students whose teachers expressed confidence were: 'Place value' (grade three, 91%; grade five, 95%), 'Numbers and patterns' (grade three, 92%; grade five, 95%), and 'Operations' (grade three, 92%; grade five, 94%).

Table TT2.9

Percentage of students whose teachers express confidence in teaching numeracy

Subject	Grade 3	Grade 5
Number and patterns	 92% (2.5)	 95% (2.4)
Place value	 91% (2.8)	 95% (2.2)
Fractions and percentage	 82% (3.3)	 93% (2.5)
Operations	 92% (2.4)	 94% (2.4)
Measurement	 84% (3.0)	 94% (2.3)
Geometry	 73% (4.0)	 83% (3.3)
Data and chance	 71% (3.8)	 81% (4.0)

Percentage of students whose teachers expressed confidence in teaching numeracy, PNG, PILNA 2021

() Standard errors appear in parentheses.

The same questions were asked of teachers in the 2018 PILNA cycle and results from both the 2018 and 2021 cycles of PILNA are presented for comparison in Table TT2.10. Similar findings were found in numeracy as in literacy. In every numeracy area, across both grade levels, a higher proportion of students had a teacher confident in teaching the areas in 2021 than in 2018.

Table TT2.10

Percentage of students whose teachers express confidence in teaching numeracy in 2018 and 2021

Subject	2018	Difference	2021
Grade 3			
Numbers and patterns	87% (3.6)		92% (2.5)
Place value	89% (2.8)		91% (2.8)
Fractions and percentages	74% (4.5)		82% (3.3)
Operations	89% (3.8)		92% (2.4)
Measurement	76% (4.3)		84% (3.0)
Geometry	64% (5.2)		73% (4.0)
Data and chance	67% (5.0)		71% (3.8)

Subject	2018	Difference	2021
Grade 5			
Numbers and patterns	94% (2.8)		95% (2.4)
Place value	94% (2.8)		95% (2.2)
Fractions and percentages	84% (4.3)		93% (2.5)
Operations	94% (2.8)		94% (2.4)
Measurement	88% (3.9)		94% (2.3)
Geometry	79% (5.1)		83% (3.3)
Data and chance	79% (5.0)		81% (4.0)

Percentage of students whose teachers expressed confidence in teaching numeracy in 2018 and 2021, PNG, PILNA 2018, 2021

() Standard errors appear in parentheses.

Confidence in teaching numeracy and teacher characteristics

A regional scale with nine items focused on measuring teachers' confidence in teaching numeracy based on teachers' responses was established. Higher scores on this scale indicate higher levels of confidence in teaching numeracy. As with literacy, the numeracy teaching confidence scores were compared to teachers' demographic groups (gender, age, teaching experience, highest qualification).

- Male teachers were significantly more confident in teaching numeracy than female teachers.
- No significant difference in confidence teaching numeracy was found based on the age, experience or qualifications of teachers.
- Overall, teachers in Papua New Guinea were more confident in teaching numeracy compared to the average across the region.

The PILNA scale for teachers' confidence in teaching numeracy has an average of 200 and a standard deviation of 40. Most scores are expected to be within 40 points of 200 (160–240). The scale was formed by statistical analysis of the answers to six out of seven questions teachers were asked about their confidence in teaching this area.

What does this mean?

A high proportion of students in Papua New Guinea have teachers who are confident in teaching literacy and numeracy. The proportion of students who have confident teachers was generally higher across the numeracy domain than the literacy

domain.

In literacy, more students have confident teachers in areas that are structured or rule-based, such as spelling, punctuation and vocabulary. Fewer students have confident teachers in areas that require more subjective or complex teaching and assessment, such as quality of ideas and organisation and structure in writing.

Differences were noted within the comparisons for teacher demographic factors. Male teachers were significantly more confident in teaching literacy and numeracy than female teachers. However, age, teaching experience, and qualifications did not appear to have any effect on the confidence of teachers in literacy or numeracy.