

Benchmarking Year 4 numeracy performance: Are standards being met?

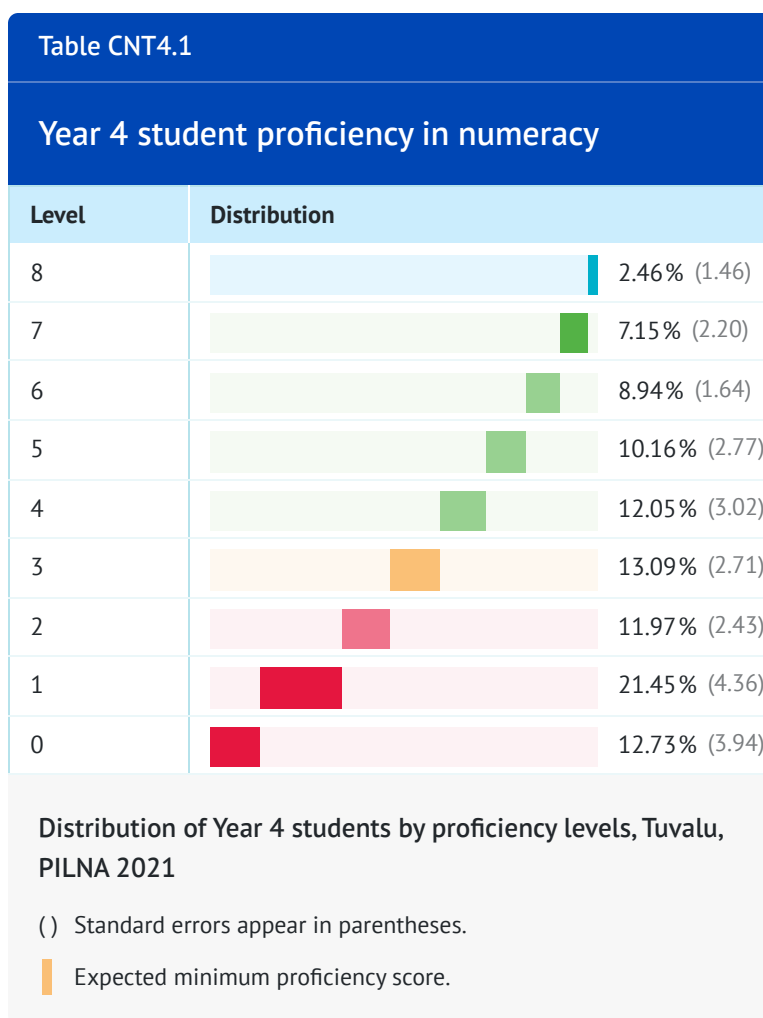
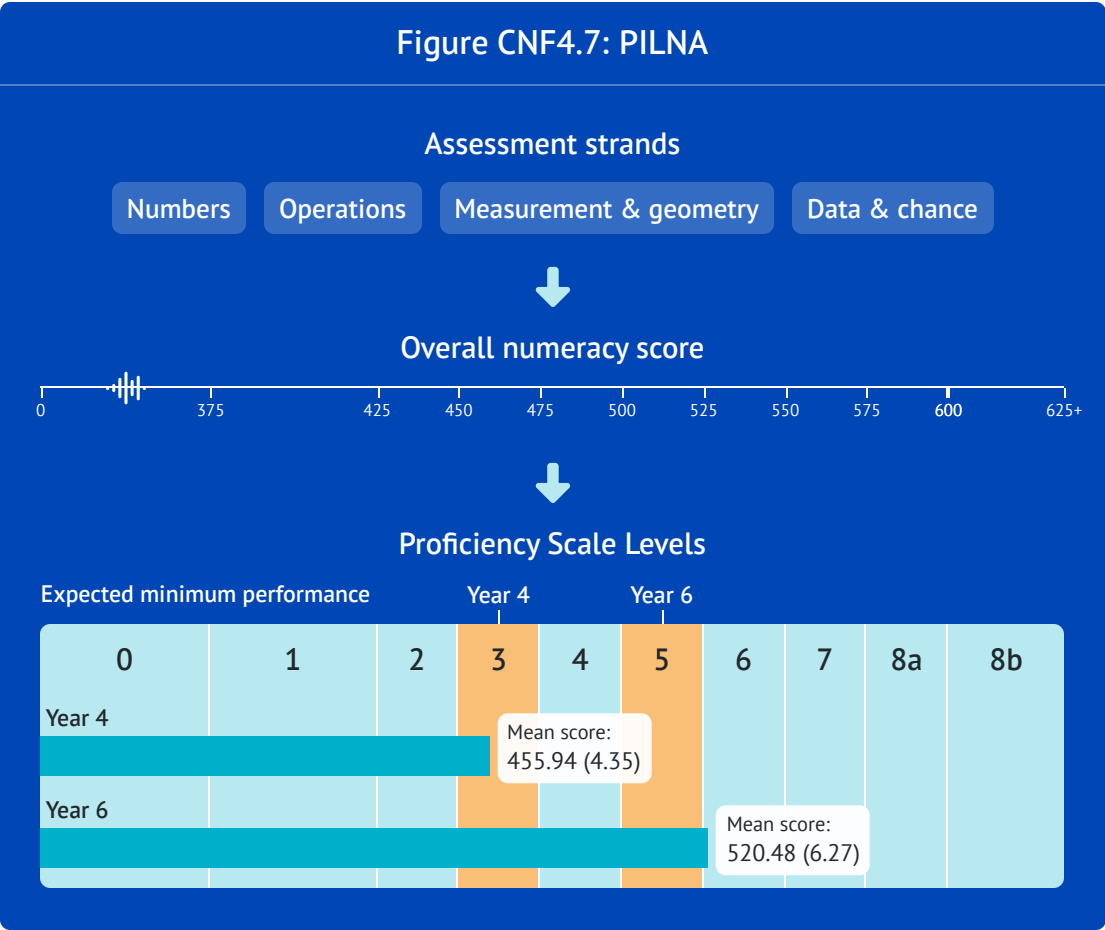


Table CNT4.1 shows the distribution of year four overall numeracy scores in Tuvalu against the PILNA numeracy proficiency scale. This scale converts a student's overall numeracy score into a level ranking from zero to eight. The expected minimum overall numeracy performance for year four students is **proficiency level three**. Pacific stakeholders expect these students to reach or exceed this proficiency level.

The average overall numeracy score for year four students in Tuvalu in 2021 was 455.94 (SD = 70.09). This corresponds to the lower threshold of proficiency level three in the PILNA numeracy proficiency scale (level three is assigned to scores 450–475). On average, year four students in Tuvalu are achieving the minimum expected standard in numeracy, but only just (Figure CNF4.7).



The average numeracy score does not tell us the whole story. The proportion of students who are meeting the minimum expected standard is also important. Approximately 54% of year four students in Tuvalu performed at or above this expected level (levels 3–8) in PILNA 2021 and approximately 46% of the students performed below the expected proficiency level (levels 0–2). In other words, about half the year four students are meeting the minimum expected level for numeracy, but about half are yet to meet this level.

Table CNT4.2

Year 4 student numeracy proficiency relative to the region

Level	Region	SIS	Tuvalu
8	7.82% (0.48)	13.85% (2.64)	2.46% (1.46)
7	7.52% (0.35)	9.59% (1.60)	7.15% (2.20)
6	11.40% (0.35)	10.74% (1.22)	8.94% (1.64)
5	13.95% (0.39)	9.88% (0.96)	10.16% (2.77)
4	14.03% (0.41)	9.53% (1.28)	12.05% (3.02)
3	12.45% (0.51)	9.50% (1.10)	13.09% (2.71)
2	10.48% (0.45)	8.83% (1.32)	11.97% (2.43)
1	14.11% (0.56)	14.13% (2.19)	21.45% (4.36)
0	8.24% (0.59)	13.94% (2.92)	12.73% (3.94)

Distribution of Year 4 students' proficiency levels in Tuvalu, PILNA 2015, 2018 and 2021

() Standard errors appear in parentheses.

On average, year four students in Tuvalu (455.94) are scoring lower in numeracy than year four students in the region (478.91). Also as shown in Table CNT4.2, the proportion of year four students in Tuvalu who are meeting the minimum expected proficiency level for numeracy (54%) is lower than the proportion of year four students across the region (67%) and in Small Island States (63%).

Table CNT4.3

Year 4 Numeracy distribution by proficiency scores and gender

Level	Boys	Girls
8	1.21% (1.55)	3.79% (2.33)
7	4.49% (2.31)	10.01% (3.34)
6	6.51% (2.03)	11.55% (3.38)
5	9.53% (2.83)	10.83% (4.10)
4	11.98% (2.97)	12.12% (3.76)
3	12.20% (3.29)	14.05% (3.76)
2	12.02% (2.77)	11.92% (3.62)
1	23.87% (5.27)	18.85% (5.27)
0	18.19% (5.12)	6.87% (2.83)

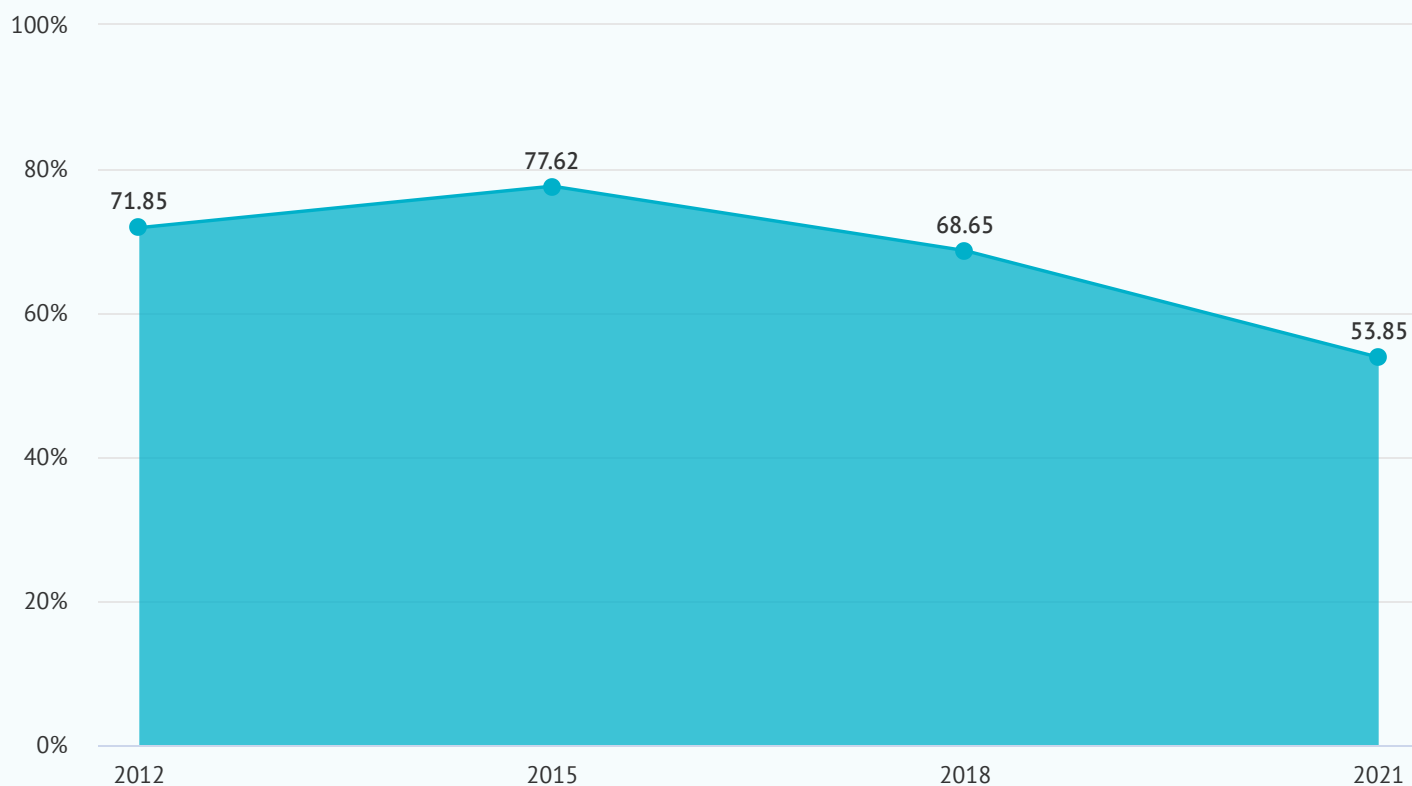
Distribution of Year 4 students' proficiency in numeracy by gender, Tuvalu, PILNA 2021

() Standard errors appear in parentheses.

When looking at the Tuvalu distribution of year four numeracy proficiency scores in 2021 by gender (Table CNT4.3), differences can be seen. Approximately 62% of girls performed at or above the minimum expected proficiency level (levels 3–8) compared to approximately 46% of boys. Additionally, boys represented higher proportions of students performing at level zero and level one (the lowest performance levels) than girls; 24% of year four boys performed at level one compared to 19% of girls, and 18% of boys performed at level zero compared to 7% of girls.

Figure CNF4.8

Year 4 students proficiency levels



Year	Students at or above
2012	71.85
2015	77.62
2018	68.65
2021	53.85

Distribution of Year 4 students proficiency levels in Tuvalu, PILNA 2012, 2015, 2018 and 2021

Figure CNF4.8 shows the proportion of Tuvalu year four students meeting the overall numeracy standard over time. As seen in Figure CNF4.8, a lower proportion of year four students met the minimum expected level of overall numeracy performance in 2021 than in all previous PILNA cycles (2012 = 72%, 2015 = 78%, 2018 = 69%, 2021 = 54%). This is a critical finding from PILNA 2021: a decrease in the proportion of year four students achieving the minimum expected level of numeracy.