

Benchmarking Year 4 numeracy performance: Are standards being met?

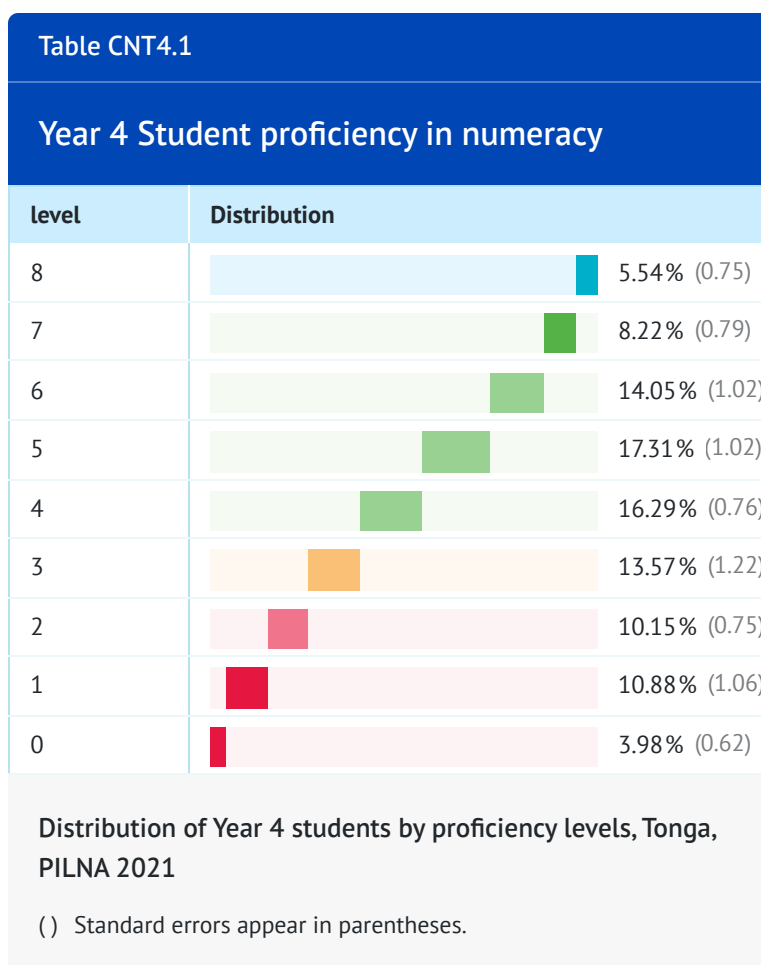
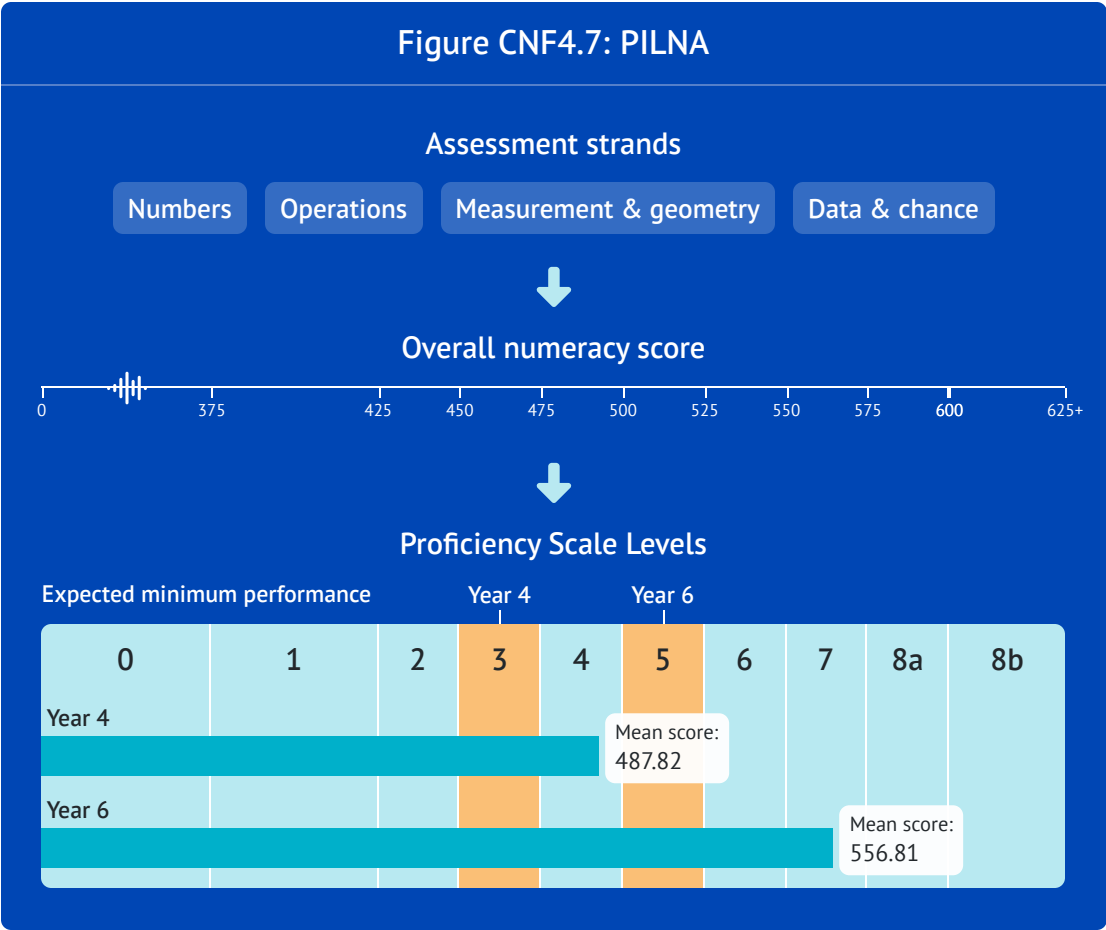


Table CNT4.1 shows the distribution of year four overall numeracy scores in Tonga against the PILNA numeracy proficiency scale. This scale converts a student's overall numeracy score into a level ranking from zero to eight. The expected minimum overall numeracy performance for year four students is proficiency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

The average overall numeracy score for year four students in Tonga in 2021 was 487.82 (SD = 59.49). This corresponds to proficiency level four in the PILNA numeracy proficiency scale (level four is assigned to scores 475–500). On average, year four students in Tonga are achieving the minimum expected standard in numeracy.



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 75% of the year four students in Tonga, three out of four, performed at or above this expected level (levels 3–8) in PILNA 2021, while approximately 25% of the students, one out of four, performed below the expected proficiency level (levels 0–2). In other words, most year four students are meeting the minimum expected level for numeracy, but there is a significant proportion (25%) who are yet to meet the minimum expected proficiency level.

Table CNT4.2

Year 4 student numeracy proficiency relative to the region

level	Region	Tonga
8	7.82 % (0.48)	5.54 % (0.75)
7	7.52 % (0.35)	8.22 % (0.79)
6	11.40 % (0.35)	14.05 % (1.02)
5	13.95 % (0.39)	17.31 % (1.02)
4	14.03 % (0.41)	16.29 % (0.76)
3	12.45 % (0.51)	13.57 % (1.22)
2	10.48 % (0.45)	10.15 % (0.75)
1	14.11 % (0.56)	10.88 % (1.06)
0	8.24 % (0.59)	3.98 % (0.62)

Distribution of Year 4 students' proficiency levels in Tonga, PILNA 2021

() Standard errors appear in parentheses.

On average, year four students in Tonga (487.82) are scoring higher in numeracy than year four students in the region (478.91). Also, the proportion of year four students in Tonga who are meeting the minimum expected proficiency level for numeracy (75%) is higher than the proportion across the region (67%) as seen in Table CNT4.2.

Table CNT4.3

Year 4 Numeracy distribution by proficiency scores and gender

Level	Boys	Girls
8	4.69% (0.75)	6.52% (1.06)
7	6.91% (0.84)	9.70% (1.18)
6	12.04% (1.43)	16.32% (1.54)
5	15.00% (1.08)	19.94% (1.49)
4	16.33% (1.34)	16.28% (1.69)
3	15.20% (1.62)	11.94% (1.48)
2	12.36% (1.05)	7.74% (1.24)
1	12.79% (1.27)	8.46% (1.35)
0	4.68% (0.82)	3.10% (0.67)

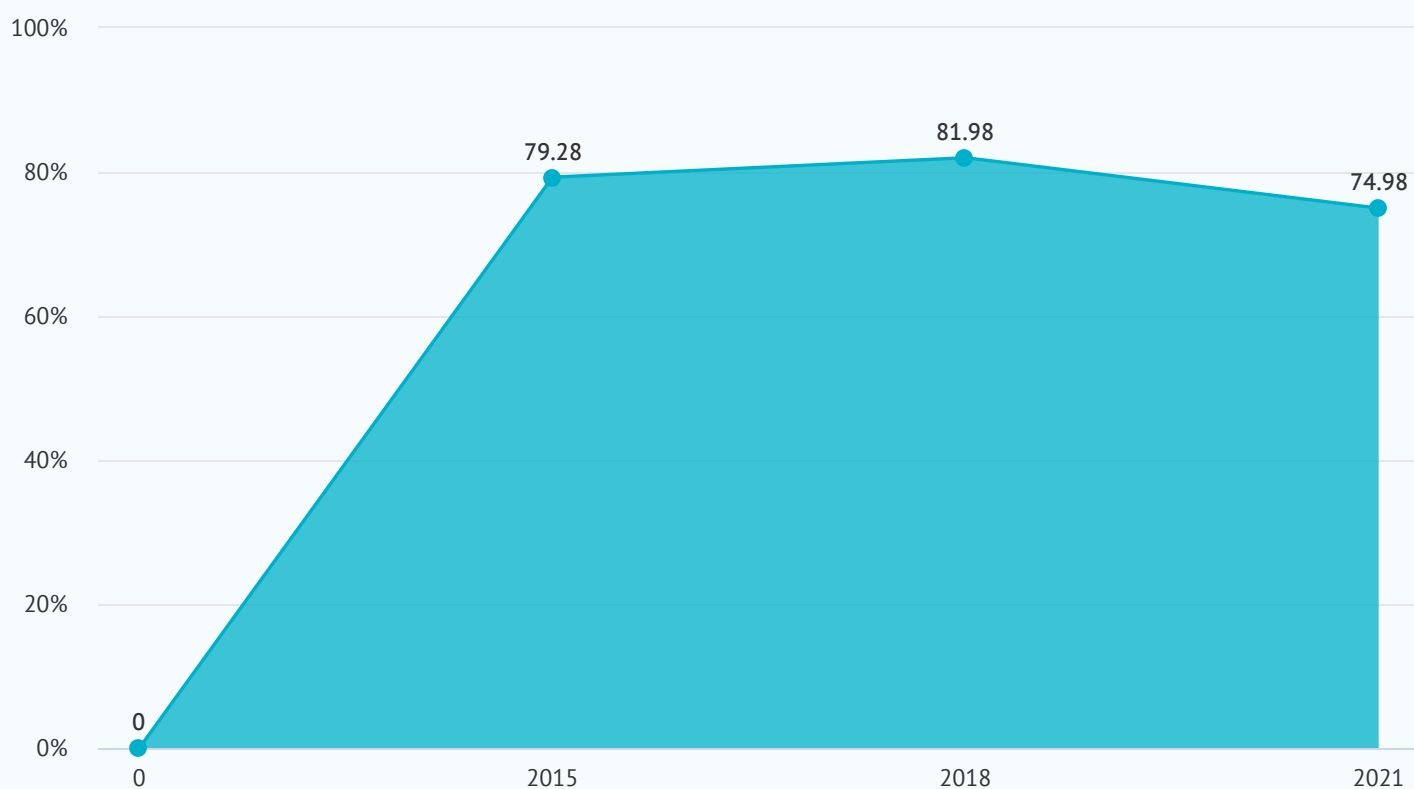
Distribution of Year 4 Reading Proficiency Scores by Gender, Tonga, PILNA 2021

() Standard errors appear in parentheses.

When looking at the Tonga distribution of year four numeracy proficiency scores in 2021 by gender (Table CNT4.3), differences can be seen. Approximately 81% of girls performed at or above the minimum expected proficiency level (levels 3–8) compared to approximately 70% of boys. Additionally, boys represented higher proportions of the students performing at level zero and level one than girls; 13% of year four boys performed at level one compared to 8% of girls, and 5% of boys performed at level zero compared to 3% of girls.

Figure CNF4.8

Year 4 students proficiency levels



Year	Students at or above
0	0
2015	79.28
2018	81.98
2021	74.98

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

Figure CNF4.8 shows the proportion of Tonga year four students meeting the overall numeracy standard over time. As seen in Figure CNF4.8, a slightly lower proportion of year four students met the minimum expected level of overall numeracy performance in 2021 than in two previous PILNA cycles (2015 = 79%, 2018 = 82%, 2021 = 75%). This was also observed at the regional level.