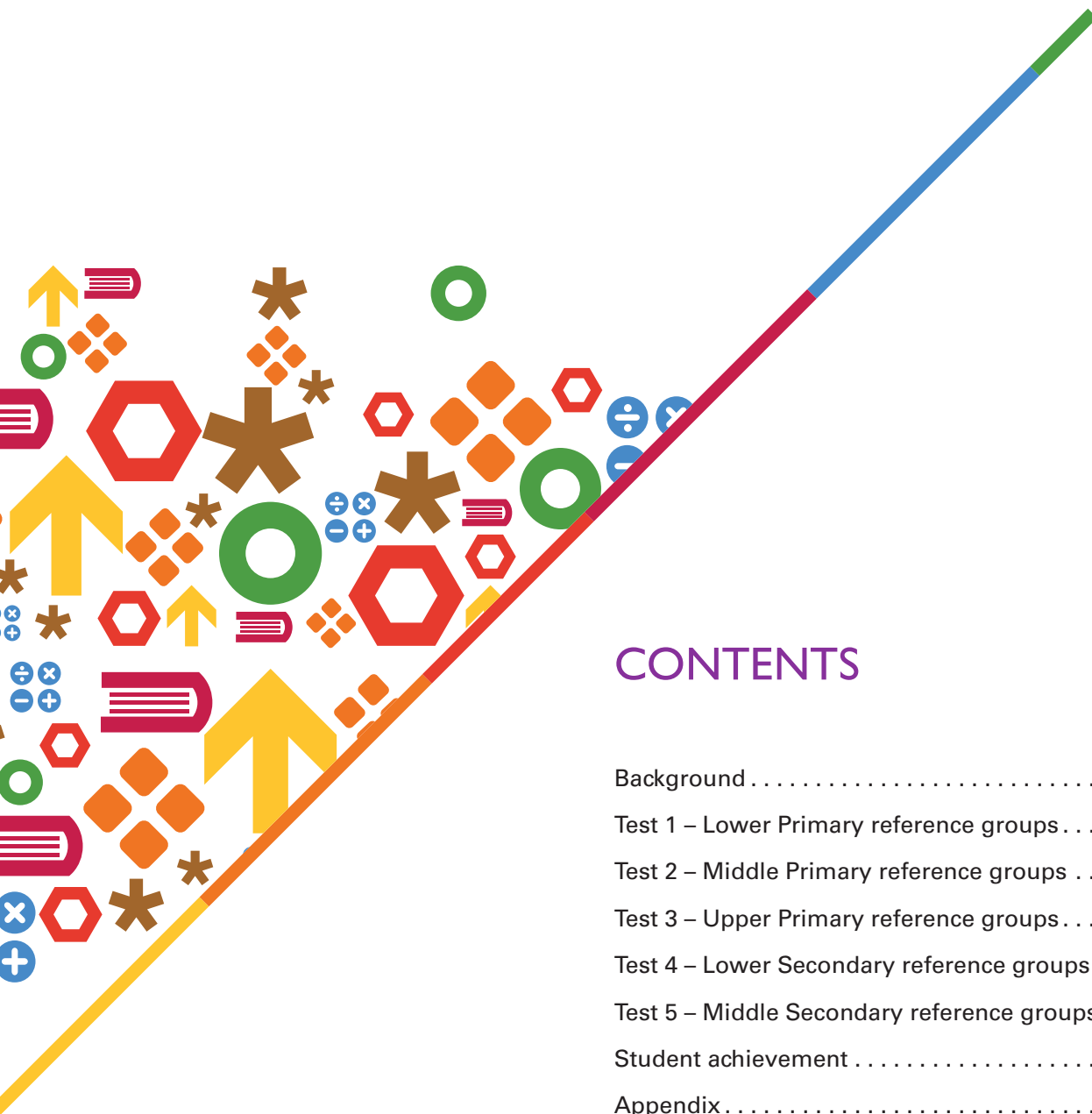




PAT Vocabulary Skills

Reference groups



CONTENTS

Background	1
Test 1 – Lower Primary reference groups	1
Test 2 – Middle Primary reference groups	2
Test 3 – Upper Primary reference groups	2
Test 4 – Lower Secondary reference groups	3
Test 5 – Middle Secondary reference groups	3
Student achievement	4
Appendix	11

Background

The PAT Vocabulary Skills assessments are targeted to students from Years 1 to 10. There are five tests intended for five stages within these years: Lower Primary, Middle Primary, Upper Primary, Lower Secondary, and Middle Secondary. These names are not prescriptive of when each must be administered, but instead indicate the relative complexity and types of skills assessed by each test.

The reference groups are composed of Australian students in Years 1 to 10 who completed PAT Vocabulary Skills assessments between July and December 2019. The samples are self-selecting and the students in the reference groups for this test are not representative of the Australian population as a whole (see the Australian student distribution in Appendix). This data was collected from ACER's Online Assessment and Reporting System (OARS) database. To form the reference groups, de-identified student results from the OARS database were selected based on particular criteria. Student results from testing during the months of September and November were selected. The decision was made to limit the samples to students who were assessed around the same stage of their school learning. Students in a particular year level sitting a test at the beginning of the year would likely perform differently to students from the same level sitting a test at the end of the year.

Test 1 – Lower Primary reference groups

Reference groups for Lower Primary level included students who were in Years 1 and 2 at the time of testing. Two reference groups are provided for this test, one for each year level.

The distribution of cases in each of the reference groups by state/territory is given in Table 1.

Table 1 Distribution of reference groups for PAT Vocabulary Skills Lower Primary by state/territory and year level

State/territory	Year 1		Year 2	
	Students	%	Students	%
Australian Capital Territory	0	0	176	5.1
New South Wales	356	39.1	1028	29.8
Northern Territory	0	0.0	0	0.0
Queensland	106	11.6	537	15.6
South Australia	24	2.6	74	2.2
Tasmania	24	2.6	285	8.3
Victoria	349	38.3	1172	34.0
Western Australia	52	5.7	173	5.0
Total	911	100.0	3445	100.0

Test 2 – Middle Primary reference groups

Reference groups for Middle Primary level included students in Years 3 and 4 at the time of testing. Two reference groups are provided for this test, one for each year level.

The distribution of cases in each of the reference groups by state/territory is given in Table 2.

Table 2 Distribution of reference groups for PAT Vocabulary Skills Middle Primary by state/territory and year level

State/territory	Year 3		Year 4	
	Students	%	Students	%
Australian Capital Territory	156	3.9	236	5.1
New South Wales	1151	28.6	1148	25.0
Northern Territory	0	0.0	0	0.0
Queensland	716	17.8	753	16.4
South Australia	56	1.4	78	1.7
Tasmania	260	6.5	284	6.2
Victoria	1368	34.0	1481	32.2
Western Australia	318	7.9	622	13.5
Total	4025	100.0	4602	100.0

Test 3 – Upper Primary reference groups

Reference groups for Upper Primary level included students in Years 5 and 6 at the time of testing. Two reference groups are provided for this test, one for each year level.

The distribution of cases in each of the reference groups by state/territory is given in Table 3.

Table 3 Distribution of reference groups for PAT Vocabulary Skills Upper Primary by state/territory and year level

State/territory	Year 5		Year 6	
	Students	%	Students	%
Australian Capital Territory	145	3.5	320	7.7
New South Wales	1094	26.2	1056	25.3
Northern Territory	1	0.0	0	0.0
Queensland	696	16.7	436	10.4
South Australia	112	2.7	129	3.1
Tasmania	304	7.3	192	4.6
Victoria	1381	33.1	1527	36.5
Western Australia	440	10.5	520	12.4
Total	4173	100.0	4180	100.0

Test 4 – Lower Secondary reference groups

Reference groups for Lower Secondary level included students in Years 7 and 8 at the time of testing. Two reference groups are provided for this test, one for each year level.

The distribution of cases in each of the reference groups by state/territory is given in Table 4.

Table 4 Distribution of reference groups for PAT Vocabulary Skills Lower Secondary by state/territory and year level

State/territory	Year 7		Year 8	
	Students	%	Students	%
Australian Capital Territory	0	0.0	0	0.0
New South Wales	120	10.6	261	19.2
Northern Territory	0	0.0	0	0.0
Queensland	114	10.1	44	3.2
South Australia	192	17.0	93	6.9
Tasmania	43	3.8	87	6.4
Victoria	630	55.8	768	56.6
Western Australia	31	2.7	104	7.7
Total	1130	100.0	1357	100.0

Test 5 – Middle Secondary reference groups

Reference groups for Middle Secondary level included students in Years 9 and 10 at the time of testing. Two reference groups are provided for this test, one for each year level.

The distribution of cases in each of the reference groups by state/territory is given in Table 5.

Table 5 Distribution of reference groups for PAT Vocabulary Skills Middle Secondary by state/territory and year level

State/territory	Year 9		Year 10	
	Students	%	Students	%
Australian Capital Territory	0	0.0	0	0.0
New South Wales	249	20.9	75	11.4
Northern Territory	0	0.0	0	0.0
Queensland	112	9.4	32	4.9
South Australia	21	1.8	0	0
Tasmania	77	6.5	100	15.2
Victoria	731	61.4	449	68.0
Western Australia	1	0.1	4	0.6
Total	1191	100.0	660	100.0

Student achievement

From each reference group sample, the scale score means and standard deviations were calculated and the set of percentile ranks for each group determined.

Tables 6 to 10 show the mean scale score achievement of the PAT Vocabulary Skills reference groups, along with the standard deviation of each group's PAT scale scores. Figure 1 (page 5) shows the distributions of achievement by reference group. These are presented as box plots showing the achievement of the middle 90% of students in the reference group.

Table 6 PAT Vocabulary Skills Test 1 (Lower Primary) achievement statistics by reference group

	Year 1	Year 2
Students	911	3445
Mean PAT scale	94.3	105.3
Standard deviation	14.5	13.4

Table 7 PAT Vocabulary Skills Test 2 (Middle Primary) achievement statistics by reference group

	Year 3	Year 4
Students	4025	4602
Mean PAT scale	110.0	116.0
Standard deviation	10.2	10.8

Table 8 PAT Vocabulary Skills Test 3 (Upper Primary) achievement statistics by reference group

	Year 5	Year 6
Students	4173	4180
Mean PAT scale	122.1	127.4
Standard deviation	12.2	12.3

Table 9 PAT Vocabulary Skills Test 4 (Lower Secondary) achievement statistics by reference group

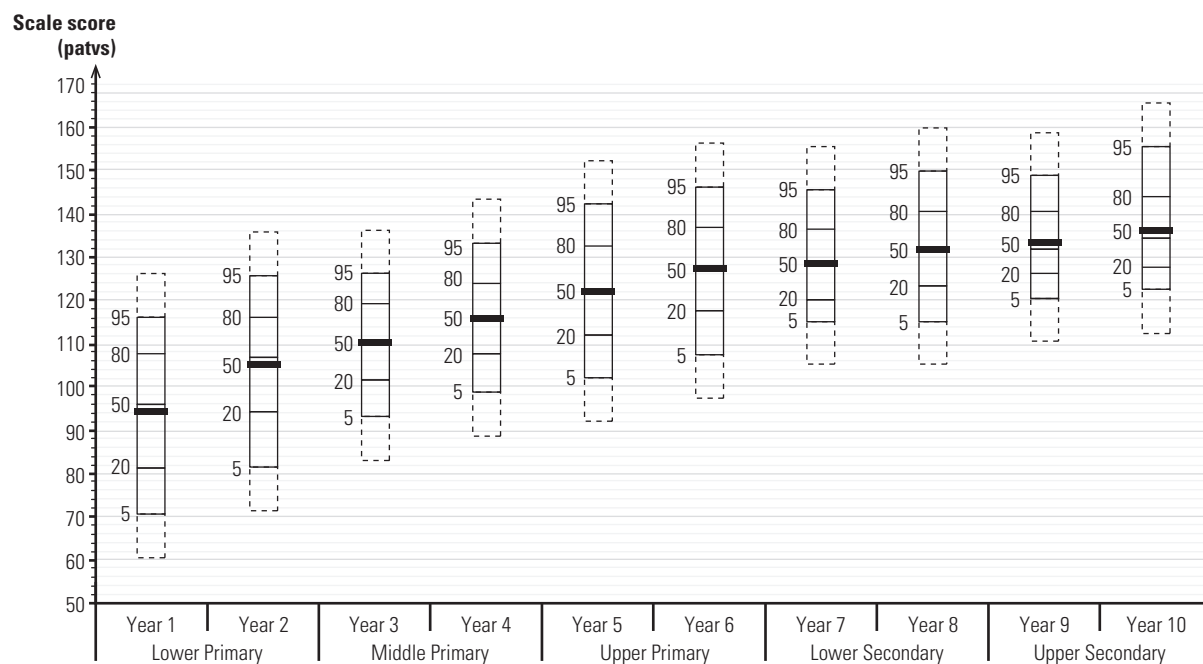
	Year 7	Year 8
Students	1130	1357
Mean PAT scale	128.8	131.8
Standard deviation	9.5	10.6

Table 10 PAT Vocabulary Skills Test 5 (Middle Secondary) achievement statistics by reference group

	Year 9	Year 10
Students	1191	660
Mean PAT scale	133.3	136.2
Standard deviation	8.8	10.1

Tables 11 to 15 (pages 6–10) show the equivalent stanine and percentile ranking scores for each reference group according to students’ raw scores on the PAT Vocabulary Skills assessments.

Figure 1 PAT Vocabulary Skills student achievement by reference group



Data collected from tests completed in ACER’s Online Assessment and Reporting System (OARS), between July and December 2019.

Table 11 Test 1 (Lower Primary) score conversion table

PAT Vocabulary Skills

Raw score	Scale score (patvs)	Error (patvs)	Year 1		Year 2	
			Percentile	Stanine	Percentile	Stanine
27	137.4	>8.8	99	9	99	9
26	125.8	8.8			97	
25	120.1	7.0			98	
24	116.0	6.1	96	8	84	7
23	112.8	5.5	93		77	6
22	110.1	5.2	89	7	68	
21	107.6	4.9	85		59	
20	105.4	4.7	79		51	5
19	103.4	4.5	74	6	44	
18	101.4	4.4	70		38	4
17	99.5		64		32	
16	97.7	4.3	58	5	28	
15	95.9		54		24	
14	94.2	4.2	49		4	21
13	92.4		45	18		
12	90.7	4.3	41	3		15
11	88.9		37		13	
10	87.1	4.4	34		2	11
9	85.2		31	9		
8	83.2	4.5	27	3		7
7	81.2	4.7	22		5	
6	78.9	4.9	18	2	4	1
5	76.5	5.2	15		3	
4	73.8	5.5	11		2	
3	70.5	6.1	7	1	1	
2	66.5	7.0	3			
1	60.7	8.8	1	1		
0	49.1	>8.8				

Table 12 Test 2 (Middle Primary) score conversion table

PAT Vocabulary Skills

Raw score	Scale score (patvs)	Error (patvs)	Year 3		Year 4	
			Percentile	Stanine	Percentile	Stanine
30	150.6	>8.7	99	9	99	9
29	139.1	8.7			97	
28	133.4	6.9			93	
27	129.4	6.0	98	8	88	8
26	126.3	5.4	96		81	
25	123.7	5.0	93		74	
24	121.4	4.7	90	7	65	7
23	119.3	4.5	85		58	
22	117.4	4.4	80		50	
21	115.6	4.2	74	6	44	6
20	113.9	4.1	68		38	
19	112.2		62		33	
18	110.7	4.0	56	5	28	5
17	109.1		50		23	
16	107.6		44		19	
15	106.1	3.9	38	4	16	4
14	104.6		33		13	
13	103.1		27		10	
12	101.5	4.0	22	3	8	3
11	100.0		18		6	
10	98.4		15		5	
9	96.7	4.2	11	2	3	2
8	94.9	4.3	8		2	
7	93.0	4.5	6		2	
6	91.0	4.7	4	1	1	1
5	88.7	5.0	2			
4	86.1	5.4	1			
3	83.0	6.0				
2	79.1	6.9				
1	73.4	8.7				
0	61.9	>8.7				

Table 13 Test 3 (Upper Primary) score conversion table

PAT Vocabulary Skills

Raw score	Scale score (patvs)	Error (patvs)	Year 5		Year 6	
			Percentile	Stanine	Percentile	Stanine
33	163.3	>8.7	99	9	99	9
32	151.9	8.7			98	96
31	146.2	6.9	96		92	87
30	142.3	5.9	93	8	81	6
29	139.3	5.3	91		7	
28	136.8	4.9	87	6		69
27	134.5	4.6	83		5	63
26	132.6	4.4	79	4		57
25	130.7	4.2	75		3	53
24	129.0	4.1	71	2		47
23	127.4	4.0	66		1	42
22	125.9	3.9	61	1		38
21	124.4	3.8	56		5	34
20	123.0		52	4		30
19	121.6	3.7	47		4	26
18	120.3		38	3		22
17	118.9	34	3		19	2
16	117.5	30		2	17	
15	116.2	3.8	26		1	14
14	114.8		22	1		12
13	113.4	19	1		10	1
12	112.0	16		1	8	
11	110.6	13	1		6	1
10	109.1	10		1	5	
9	107.5	4.1	1		3	1
8	105.8	4.2		1	2	
7	104.0	4.4	1		1	1
6	102.0	4.6		1	1	
5	99.8	4.9	1		1	1
4	97.3	5.3		1	1	
3	94.3	5.9	1		1	1
2	90.4	6.8		1	1	
1	84.9	8.6	1		1	1
0	73.4	>8.6		1	1	

Table 14 Test 4 (Lower Secondary) score conversion table

PAT Vocabulary Skills

Raw score	Scale score (patvs)	Error (patvs)	Year 7		Year 8	
			Percentile	Stanine	Percentile	Stanine
35	176.3	>8.6				
34	164.8	8.6				
33	159.2	6.8	99		99	9
32	155.4	5.9		9		
31	152.3	5.3			97	
30	149.8	4.9	98		95	
29	147.6	4.6	97		94	8
28	145.6	4.4	96		91	
27	143.8	4.2	95		88	
26	142.2	4.1	93	8	85	
25	140.6	4.0	90		82	7
24	139.1	3.9	87		79	
23	137.7	3.8	84		75	
22	136.3		81	7	71	6
21	134.9	3.7	78		66	
20	133.6		75		60	
19	132.3		70	6	56	
18	131.0	3.6	64		50	5
17	129.7		59		45	
16	128.4		54	5	42	
15	127.1		49		38	
14	125.8	3.7	44		33	4
13	124.5		38		28	
12	123.1	3.8	31	4	22	
11	121.7		26		18	
10	120.2	3.9	21		15	3
9	118.7	4.0	16	3	12	
8	117.0	4.2	11		9	
7	115.3	4.3	7	2	6	2
6	113.3	4.6	5		4	
5	111.2	4.9	2		3	
4	108.7	5.3				
3	105.7	5.9				
2	101.9	6.8	1	1		1
1	96.4	8.6			1	
0	85.0	>8.6				

Appendix

Table 16 ABS 4221.0 Schools, Australia, 2019, Table 43a: FTE Students by State*

State/ Territory	Lower Primary			Middle Primary			Upper Primary			Lower Secondary			Middle Secondary							
	Year 1		Year 2		Year 3		Year 4		Year 5		Year 6		Year 7		Year 8		Year 9		Year 10	
	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%
NSW	101 091	31	99 600	31	98 745	31	98 299	31	97 823	31	98 416	31	95 591	32	91 969	31	88 802	31	88 672	31
VIC	81 725	25	79 130	25	78 614	25	78 822	25	77 944	25	78 814	25	76 782	26	74 231	25	71 559	25	72 006	25
QLD	67 057	21	66 868	21	67 972	22	69 782	22	68 908	22	69 379	22	68 599	23	66 657	22	63 889	22	62 925	22
SA	20 851	6	20 849	7	20 384	6	20 769	7	20 900	7	21 163	7	5982	2	20 261	7	19 182	7	20 247	7
WA	34 937	11	34 402	11	34 579	11	34 444	11	34 099	11	34 793	11	34 051	11	32 590	11	30 915	11	29 788	10
TAS	6316	2	6480	2	6397	2	6658	2	6863	2	6769	2	6653	2	6481	2	6010	2	6095	2
NT	3496	1	3593	1	3512	1	3518	1	3400	1	3410	1	3177	1	3032	1	2738	1	2707	1
ACT	6014	2	5858	2	5860	2	5895	2	5612	2	5490	2	5751	2	5515	2	5245	2	5269	2
Total	321 487	100	316 780	100	316 063	100	318 187	100	315 549	100	318 234	100	296 586	100	300 736	100	288 340	100	287 709	100

* FTE student totals rounded