

Summer Learning Programme 2015/2016

South Auckland

The Programme

- 7 primary schools – over 600 students
 - Year 3 = 277
 - Year 4 = 272
 - Year 5 = 104
- Female = 313 Male = 340
- All students received reading books and maths workbooks

Objectives

Students to make scale score gains over the summer holidays in both reading and maths

- Having combined reading and maths groups (previous years students only did one)
- All students receiving 6 reading books and 1 maths workbook
- Generic comprehension cards (fiction and non fiction) given to all students
- Home liaison person to visit all families 3 times

Background Research

- Research spanning 100 years shows that students typically score lower on standardized test at the end of the summer holidays than they do at the beginning of the summer (White, 1906; Heyns, 1978; Entwisle & Alexander 1992; Cooper, 1996; Downey et al., 2004)
- More than half of the achievement gap between lower- and higher-income youth can be explained by unequal access to summer learning opportunities. As a result, low-income youth are less likely to graduate from high school or enter college (Alexander et al, 2007).
- Most students lose about 2 months of grade equivalency in maths computation skills over the summer (Cooper, 1996)
- Students from low SES backgrounds lose more than 2 months in reading achievement, despite the fact their higher SES background peers make slight gains (Cooper, 1996)
- Rasinski (2007) the summer season between first and second grade is especially problematic for students who don't have opportunities to engage with reading during the summer break. The lasting impact of low reading abilities in early grades is associated with low middle and high school achievement
- Summer learning loss produces a gap that grows over the years. Alexander, Entwisle & Olson (2007)
- There was a significant summer slide amongst the participants on STAR in NZ – at subtest, total, or stanine levels (Turner, 2014)

Measurements

- STAR Reading (7 schools)

Year	Pre Test	Post Test
3	STAR 3 – 4 B	STAR 3 – 4 B
4	STAR 3 – 4 C	STAR 5 – 6 A
5	STAR 5 – 6 B	STAR 5 – 6 B

- PAT Mathematics (5 schools)

Overall Results: Reading Year 3

Year Level	N	Pretest mean scale score	Posttest mean scale score	Difference	Average progress STAR Year 3 to 4
3	277	68.75	72.14	+3.39	+ 2.3 per month
					+ 5.75 over 2 ½ months
Gender					
Female	134	71.90	75.38	+3.48	
Male	143	65.79	69.09	+3.30	

Ability

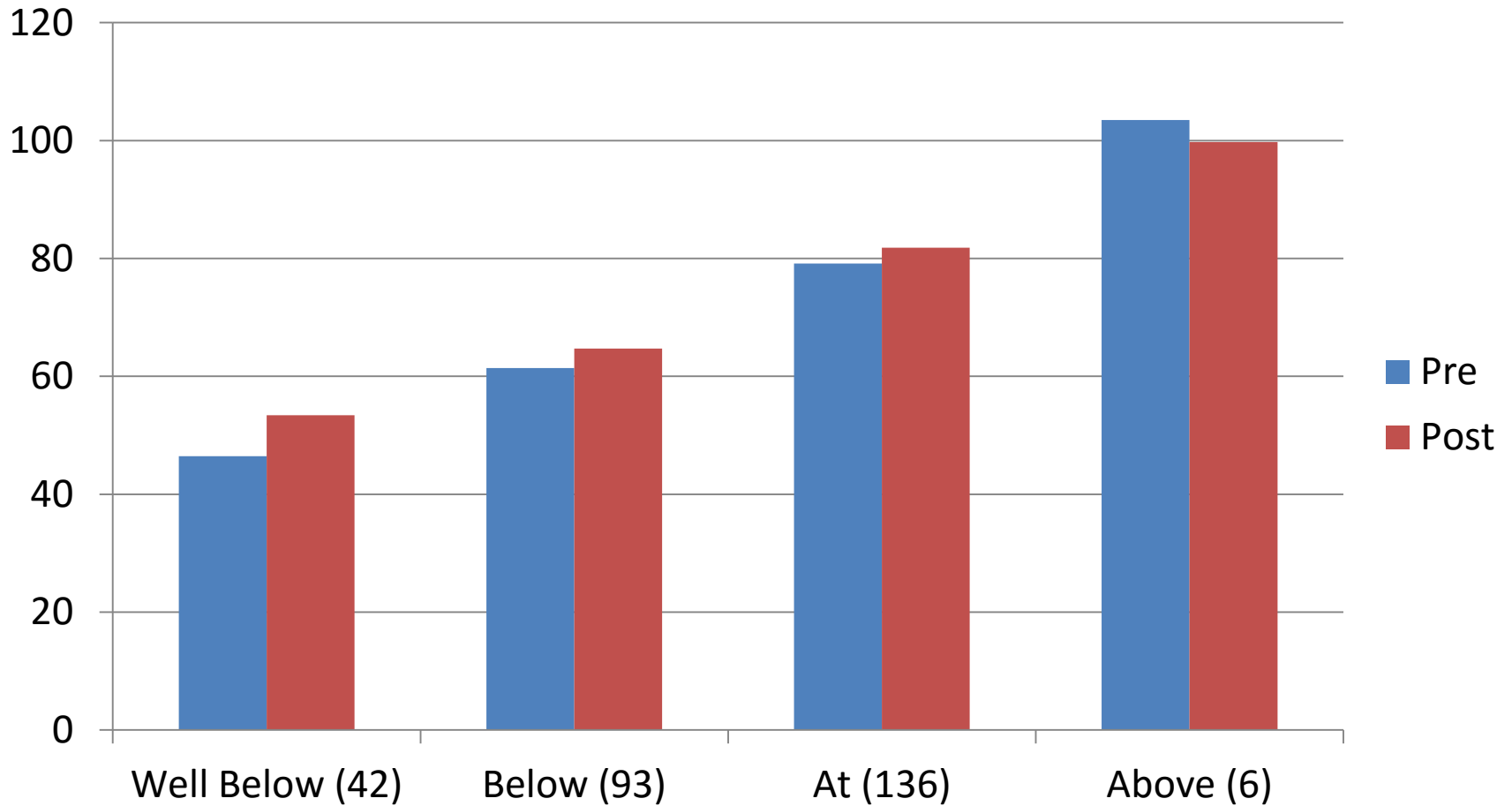
- Ability levels based on Pretest stanines:

ABILITY LEVEL	STANINE
Well Below	Stanine 1
Below	Stanines 2 and 3
At	Stanines 4, 5 and 6
Above	Stanines 7, 8 and 9

Year 3: Ability

Group	N	Pre Mean	Post Mean	Difference	
Well Below	42	46.44	53.39	+ 6.95	<i>Greater than expected progress</i>
Below	93	61.40	64.69	+ 3.29	
At	136	79.12	81.81	+ 2.69	
Above	6	103.50	99.72	- 3.78	
Total	277				

Yr. 3 Reading Progress – Ability Levels



Year 3: Subtests

Subtest	Pre Mean	Post Mean	Difference
Word Recognition	6.70	7.41	+ 0.71
Sentence Comp.	5.21	5.95	+ 0.74
Paragraph Comp.	6.76	7.11	+ 0.35
Vocabulary	4.68	5.13	+ 0.45

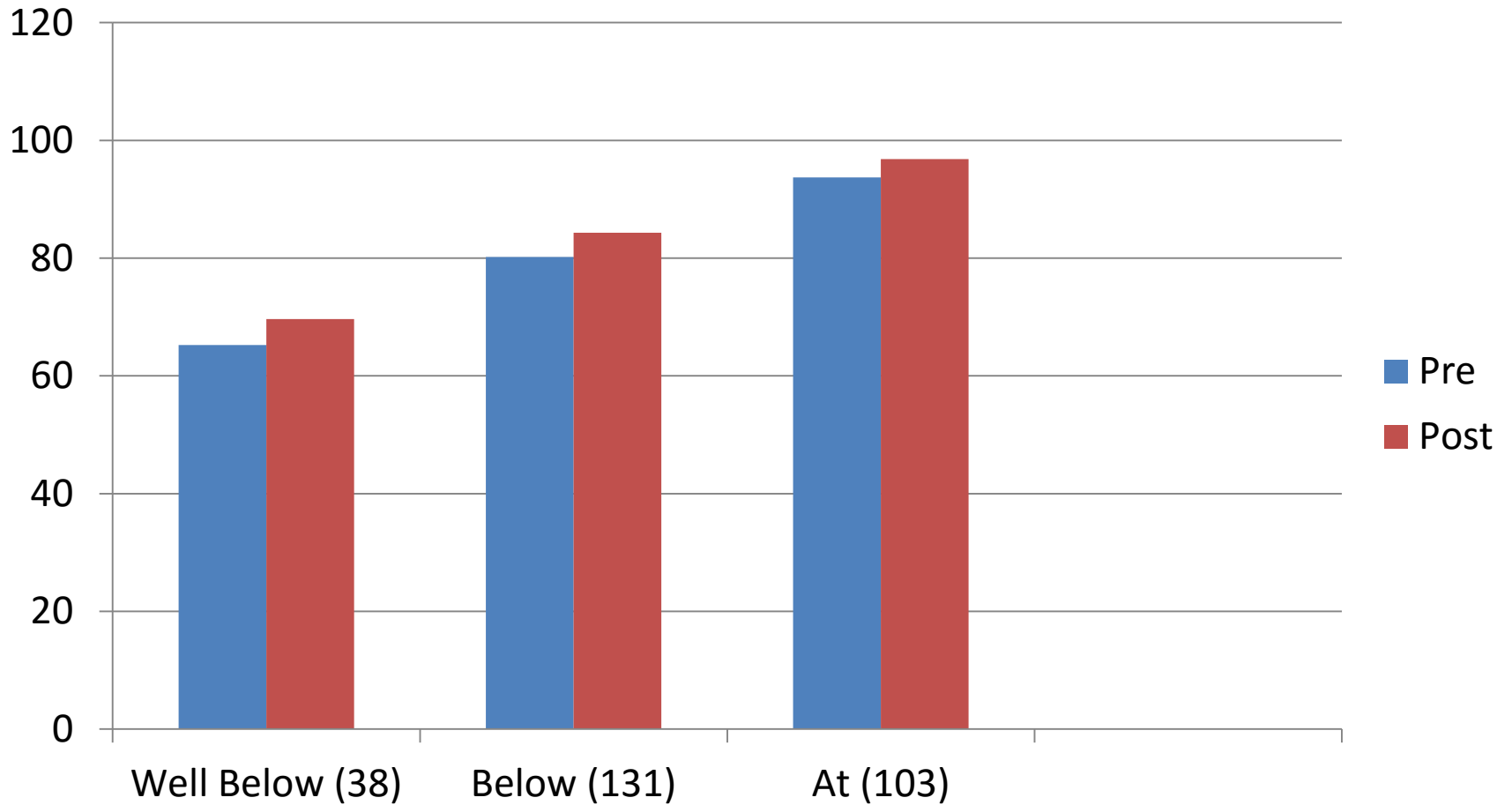
Overall Results: Reading Year 4

Year	N	Pre Mean SS	Post Mean SS	Difference	Average progress STAR Year 4 - 5
4	272	83.22	87.01	+ 3.79	+ 1.35 per month
				<i>Greater than expected progress</i>	+ 3.37 over 2 ½ months
Gender					
Female	132	85.06	88.85	+ 3.79	
Male	140	81.48	85.27	+ 3.79	

Year 4: Ability

Group	N	Pre Mean	Post Mean	Difference	Average Progress
Well Below	38	65.22	69.66	+ 4.44	<i>Greater than average progress</i>
Below	131	80.18	84.32	+ 4.14	<i>Greater than average progress</i>
At	103	93.72	96.83	+ 3.11	
Above	0				
Total	272				

Yr. 4 Reading Progress – Ability Levels



Year 4: Subtests

Subtest	Pre Mean	Post Mean	Difference
Word Recognition	6.87	7.32	+ 0.45
Sentence Comp.	4.45	5.23	+ 0.78
Paragraph Comp.	9.28	6.34	- 2.94
Vocabulary	3.83	5.93	+ 2.10

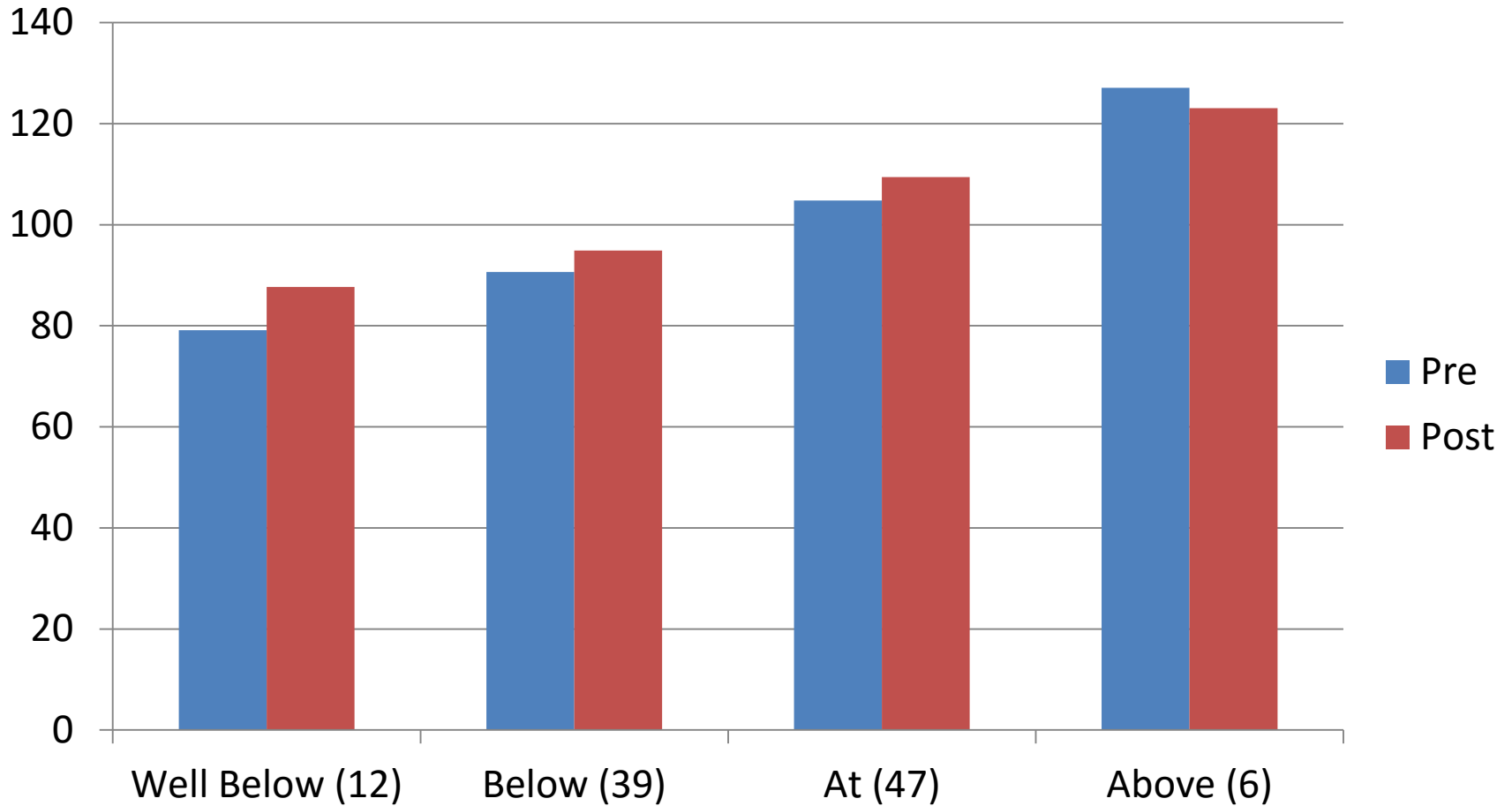
Overall Results: Year 5

Year	N	Pre Mean SS	Post Mean SS	Difference	Average Progress STAR Year 5 - 6
5	104	97.81	102.24	+ 4.43	+ 0.95 per month
				<i>Greater than expected progress</i>	+ 2.37 over 2 ½ months
Gender					
Female	47	95.15	101.46	+ 6.31	
Male	57	100.00	102.88	+ 2.88	

Year 5: Ability

Group	N	Pre Mean	Post Mean	Difference	Average Progress
Well Below	12	79.13	87.66	+ 8.53	<i>Greater than average progress</i>
Below	39	90.62	94.88	+ 4.26	<i>as above</i>
At	47	104.81	109.41	+ 4.60	<i>as above</i>
Above	6	127.08	123.10	- 3.98	
Total	104				

Yr. 5 Reading Progress – Ability Levels



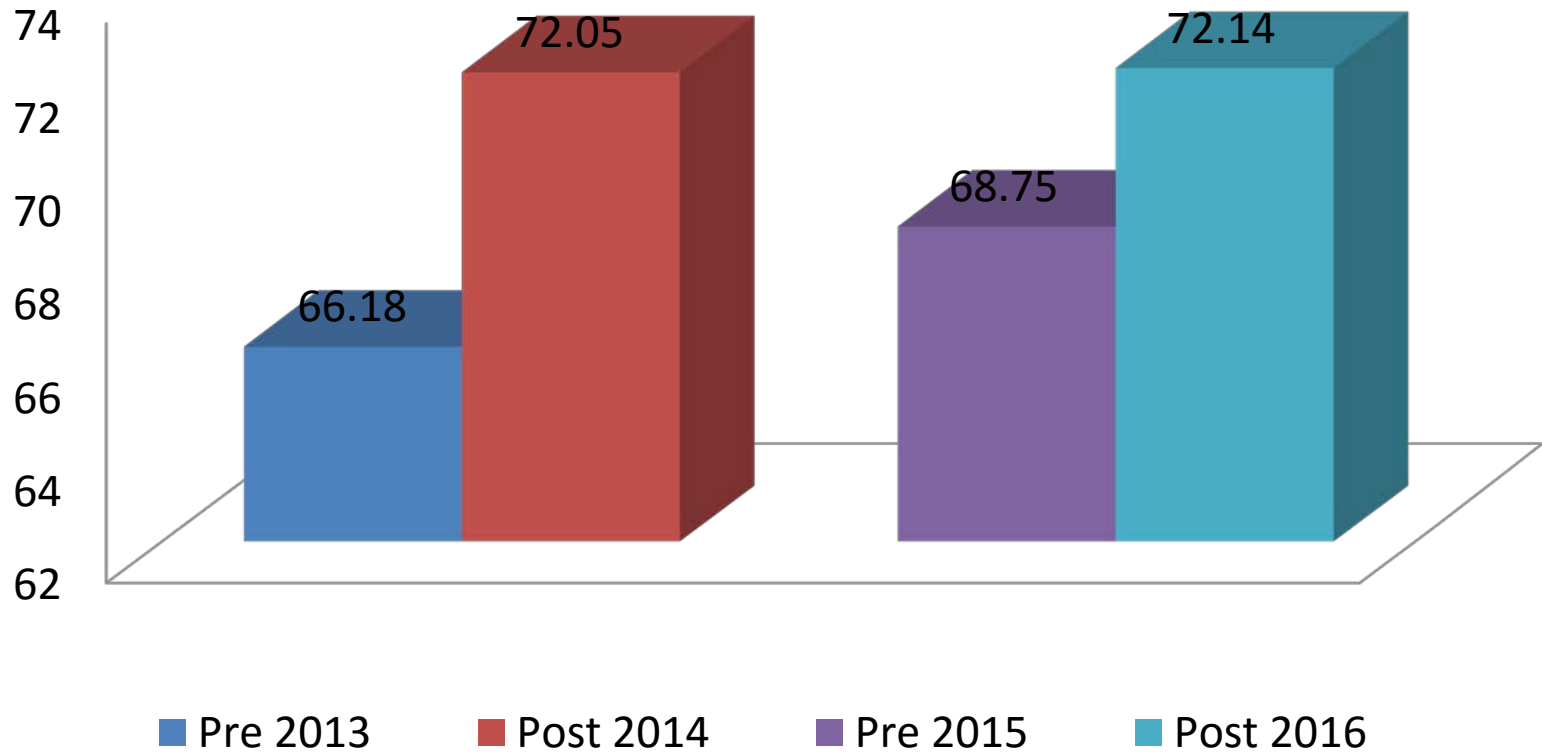
Year 5: Subtests

Subtest	Pre Mean	Post Mean	Difference
Word Recognition	8.10	8.50	+ 0.40
Sentence Comp.	5.40	6.26	+ 0.86
Paragraph Comp.	7.06	9.07	+ 2.01
Vocabulary	4.72	5.21	+ 0.49

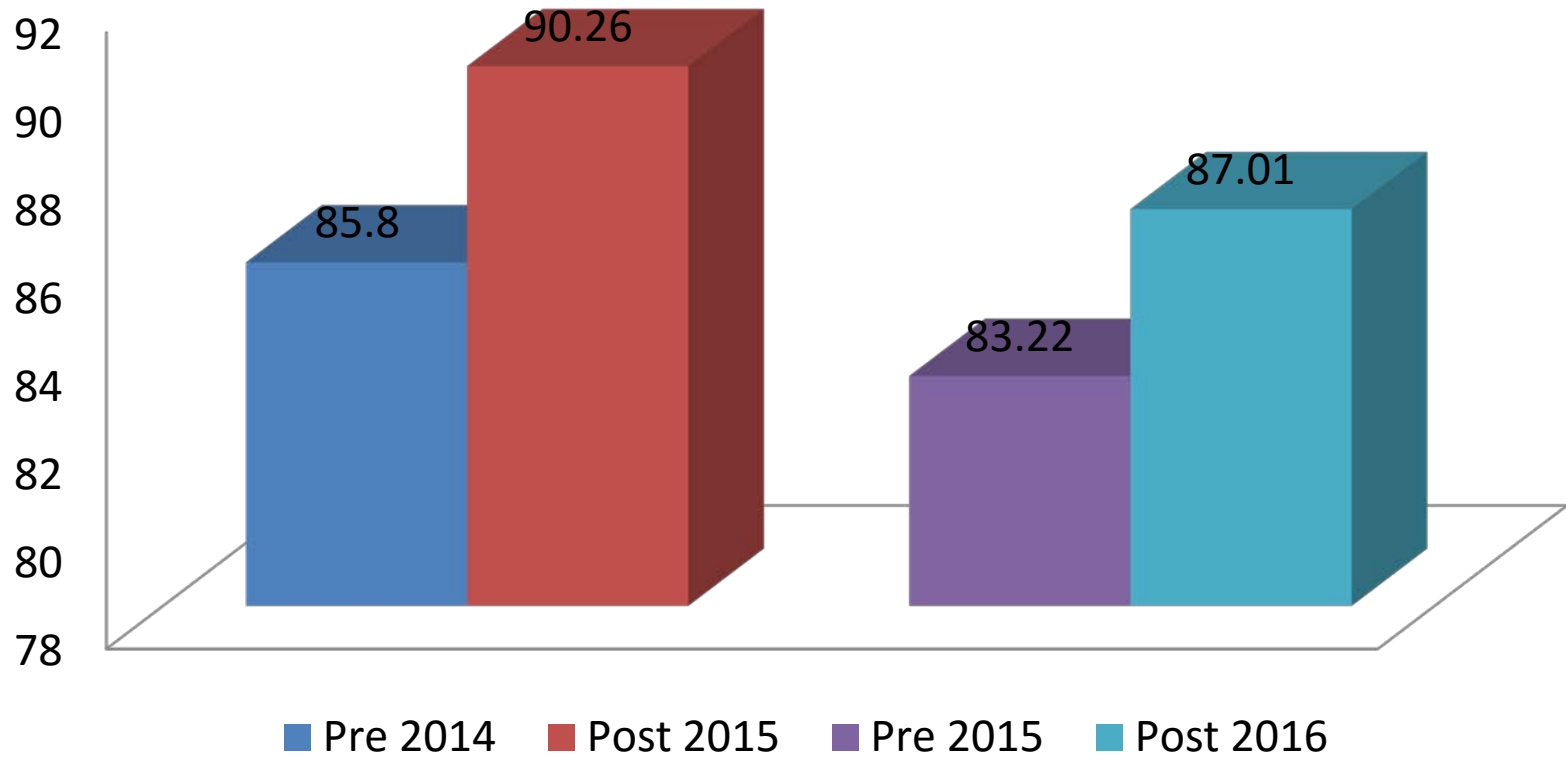
Comparison of STAR Data: 2013-2014 *and* 2015-2016

	Pre Mean	Post Mean	Difference	
Year 3				
2013-2014	66.18	72.05	+ 5.87	<i>Greater than average progress</i>
2015-2016	68.75	72.14	+ 3.39	
Year 4				
2014-2015	85.80	90.26	+ 4.46	<i>Greater than average progress</i>
2015-2016	83.22	87.01	+ 3.79	<i>Greater than average progress</i>

Comparison of Year 3 Reading Data



Comparison of Year 4 Reading Data



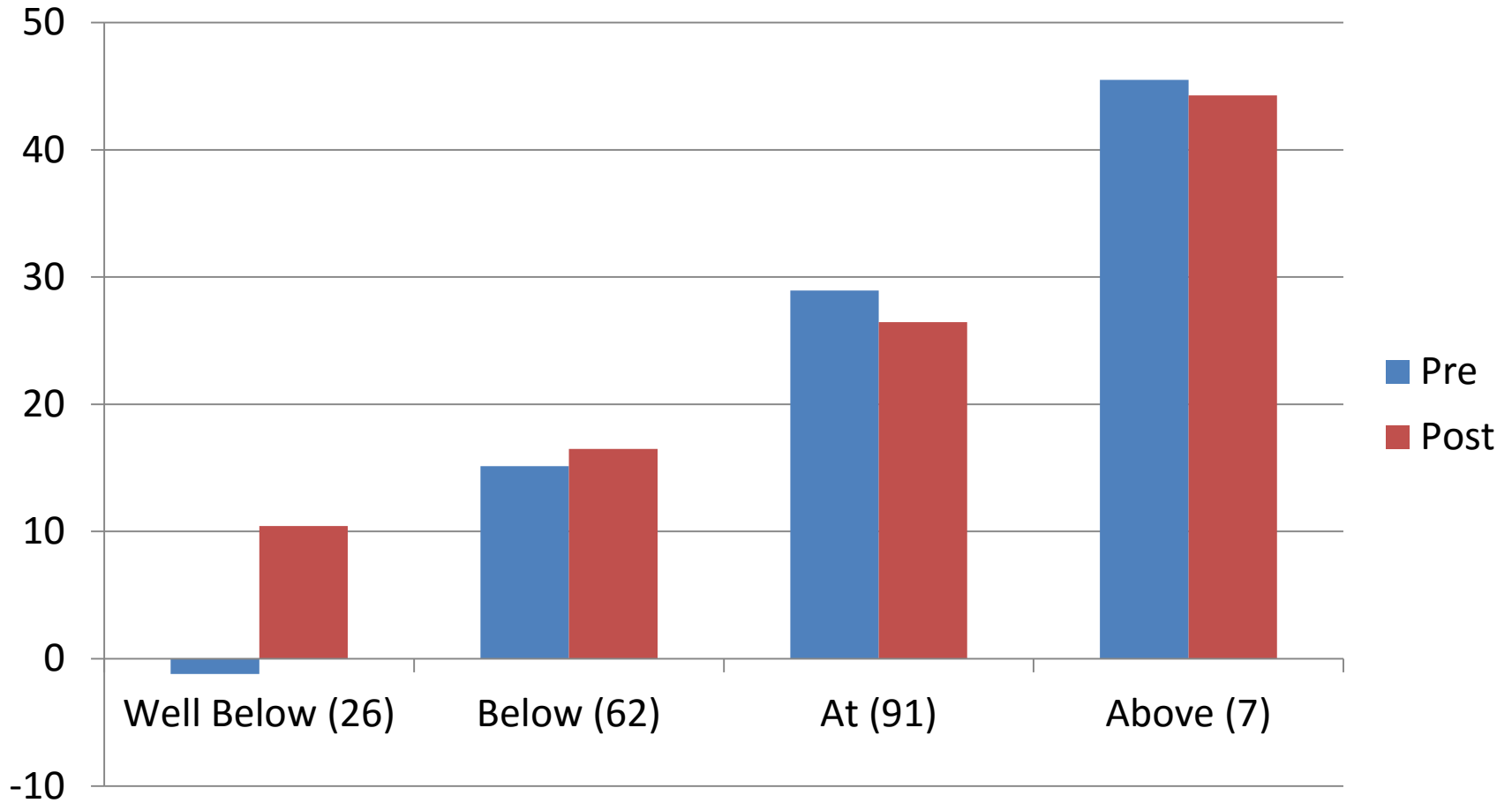
Overall Results: PAT Maths Year 3

Year	N	Pre Mean SS	Post Mean SS	Difference	Average Progress PATM Year 3 - 4
3	186	20.75	21.56	+0.81	+ 0.76 per month
					+ 1.90 over 2 ½ months
Gender					
Female	81	21.79	22.65	+ 0.86	
Male	105	19.95	20.73	+ 0.78	

Year 3 Maths: Ability

Group	N	Pre Mean SS	Post Mean SS	Difference	Average progress
Well Below	26	- 1.19	10.43	+ 9.24	<i>Greater than expected progress</i>
Below	62	15.13	16.50	+ 1.37	
At	91	28.94	26.45	- 2.49	
Above	7	45.51	44.28	- 1.23	
Total	186				

Yr 3 Maths Progress – Ability Levels



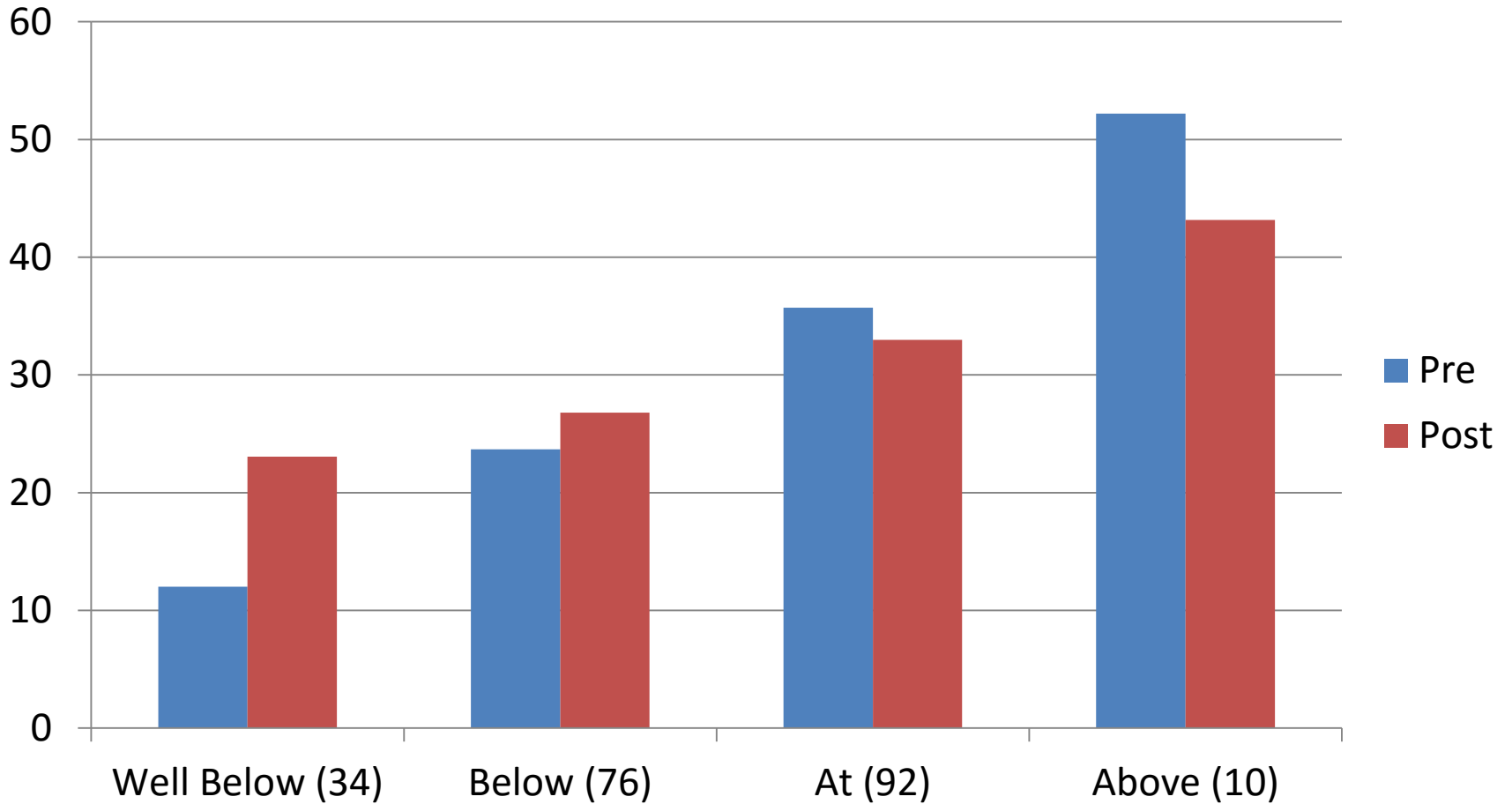
Overall Results: PAT Maths Year 4

Year	N	Pre Mean SS	Post Mean SS	Difference	Average Progress PATM Year 4 - 5
4	212	28.37	29.65	+ 1.28	+ 0.69 per month
					+ 1.72 over 2 ½ months
Gender					
Female	111	29.52	29.07	- 0.45	
Male	101	27.12	30.28	+ 3.16	<i>Greater than expected progress</i>

Year 4 Maths: Ability

Group	N	Pre Mean SS	Post Mean SS	Difference	Average Progress
Well Below	34	12.01	23.05	+ 11.04	<i>Greater than average progress</i>
Below	76	23.69	26.80	+ 3.11	<i>As above</i>
At	92	35.70	32.97	- 2.73	
Above	10	52.20	43.15	- 9.05	
Total	212				

Yr. 4 Maths Progress – Ability Levels



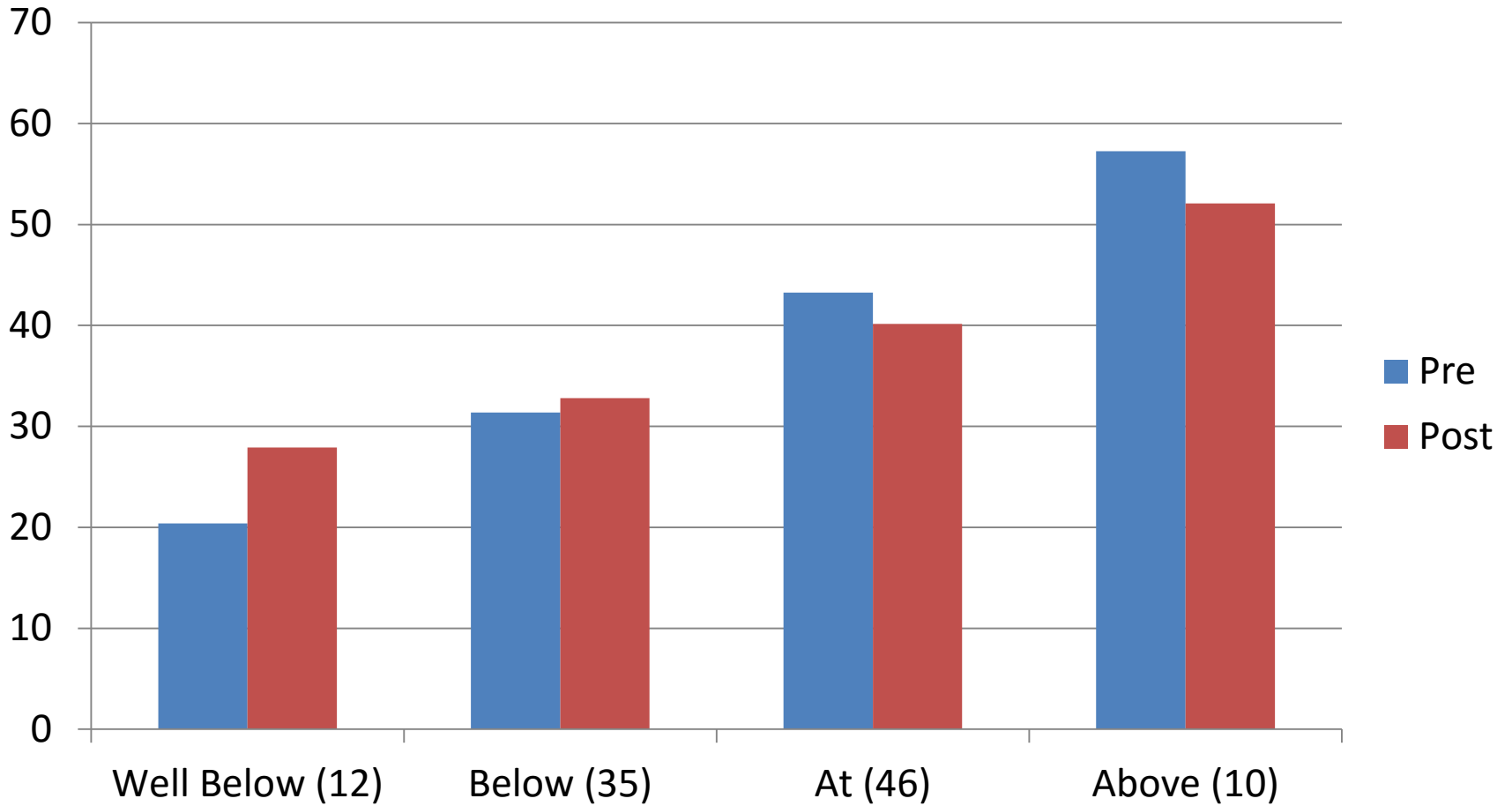
Overall Results: PAT Maths Year 5

Year	N	Pre Mean SS	Post Mean SS	Difference	Average Progress PATM Year 5 - 6
5	103	37.91	37.38	- 0.53	+ 0.51 per month
					+ 1.27 over 2 ½ months
Gender					
Female	47	36.53	35.21	- 1.32	
Male	56	39.07	39.20	+ 0.13	

Year 5: Ability

Group	N	Pre Mean SS	Post Mean SS	Difference	Average Progress
Well Below	12	20.39	27.91	+ 7.52	<i>Greater than expected progress</i>
Below	35	31.38	32.79	+ 1.41	<i>As above</i>
At	46	43.25	40.14	- 3.11	
Above	10	57.25	52.08	- 5.17	
Total	103				

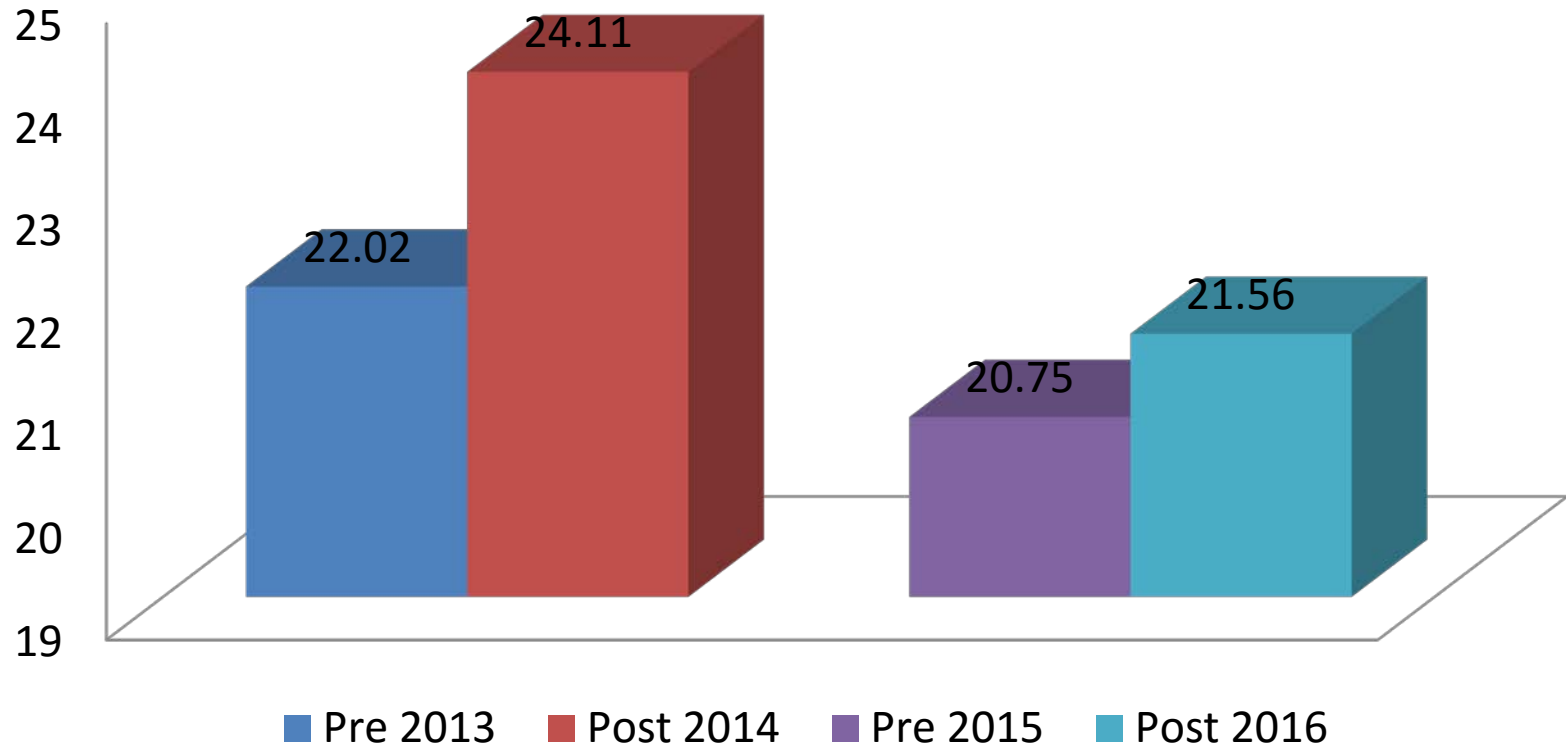
Yr. 5 Maths Progress – Ability Levels



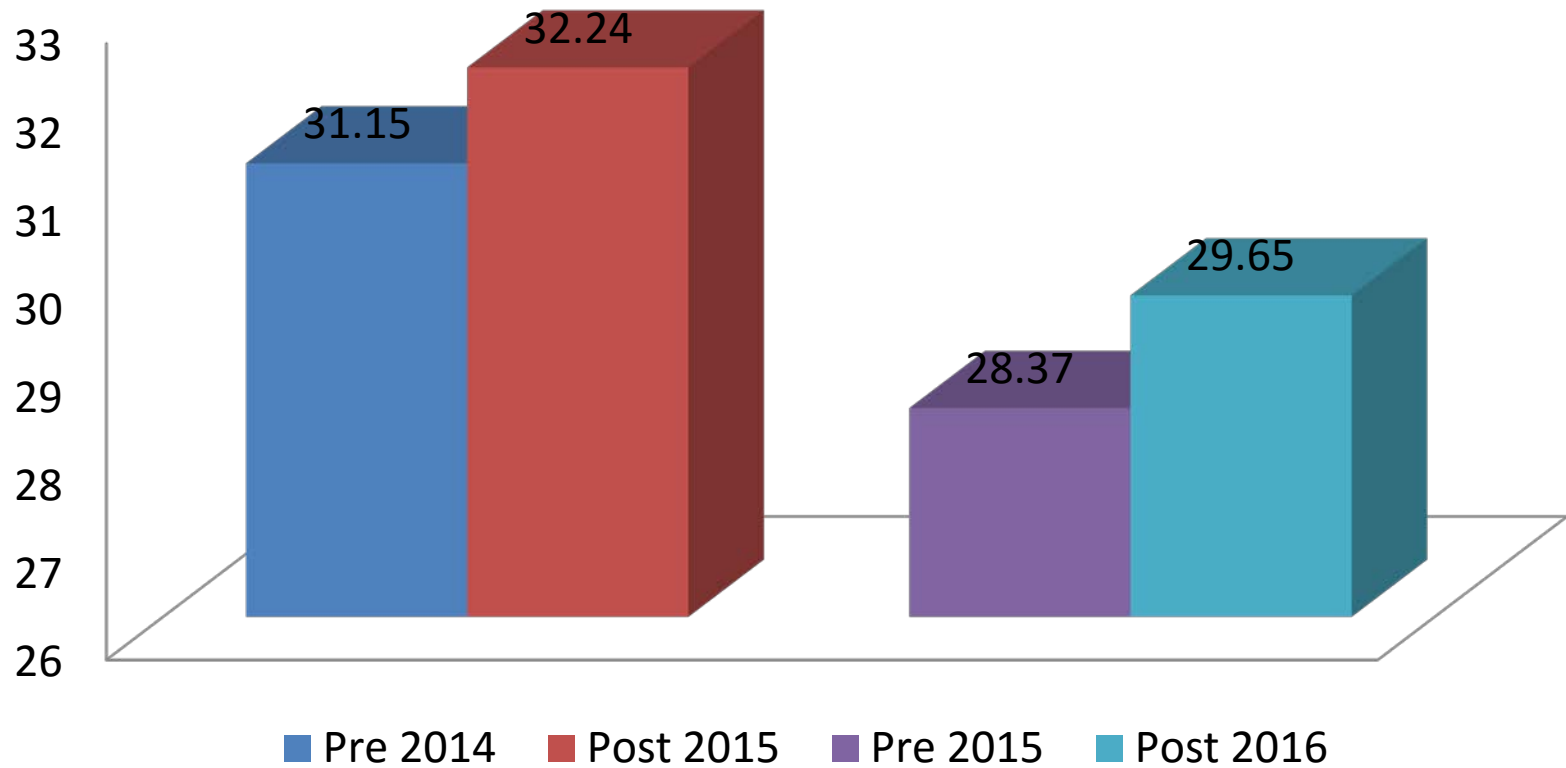
Comparison of PAT Maths data

	Pre Mean	Post Mean	Difference	
Year 3				
2013 - 2014	22.02	24.11	+ 2.09	<i>Greater than expected progress</i>
2015 - 2016	20.75	21.56	+ 0.81	
Year 4				
2014 - 2015	31.15	32.24	+ 1.09	
2015 - 2016	28.37	29.65	+ 1.28	

Comparison of Year 3 PAT Maths Data



Comparison of Year 4 PAT Maths Data



Conclusions

- Confirm “lessons learned” from 2013-2015 study - having study over 2 years better than 1 year eg. 2014-2015 Year 4’s had mean gain of + 4.45 in STAR compared with 2015-2016 Year 4’s gain of + 3.79
- Similar patterns to previous years – all year levels made gains over summer in STAR Reading and Years 3 and 4 gained in PAT Maths. Year 5 dropped slightly – not significant – possibly due to small sample size
- The “Well Below” groups made the greatest gains in both reading and maths
- The gains in this study were not as large as in the 2013-2015 study – perhaps due to a “watering down” effect from combining reading and maths together – students also received fewer books this time

Conclusions...

- Some big gains “cancelled out” by large losses eg. Year 4 Maths “Well Below” gained + 11.04 and the “Above” dropped – 9.05 (regression to the mean?) – checking with the home liaison person important to understand the big losses
- How much time was spent on reading compared with maths? In Year 4 both boys and girls made similar gains in STAR reading however in maths the boys gained + 3.16 (greater than expected progress) while the girls dropped – 0.45. Question...Did the boys prefer to do maths over the summer rather than reading?
- Seem to be getting similar results to Dr Kim (Harvard) per his ABC of Reading

The ABCs of Improved Reading

- A = access to books – need a wide variety, but access alone not enough
- B = books that match readers' ability levels and interests – not too easy and not too hard
- C = comprehension – monitored and guided by an adult, teacher, or parent- the help of an adult who can ask questions and guide child to better understand what they are reading = **critical**

James Kim, Harvard University

Where to From Here?

- Do the study over 2 or 3 years to see whether that leads to significant gains by the start of Yr 6 – this would require schools having sufficient appropriate teachers, or perhaps others, who want to do the work (and receive additional income);
- Encourage and assist home visitors to get students to do maths as well as reading (subject to feedback from home visitors);
- Give out 1 or 2 more reading books and another maths book (subject to feedback).