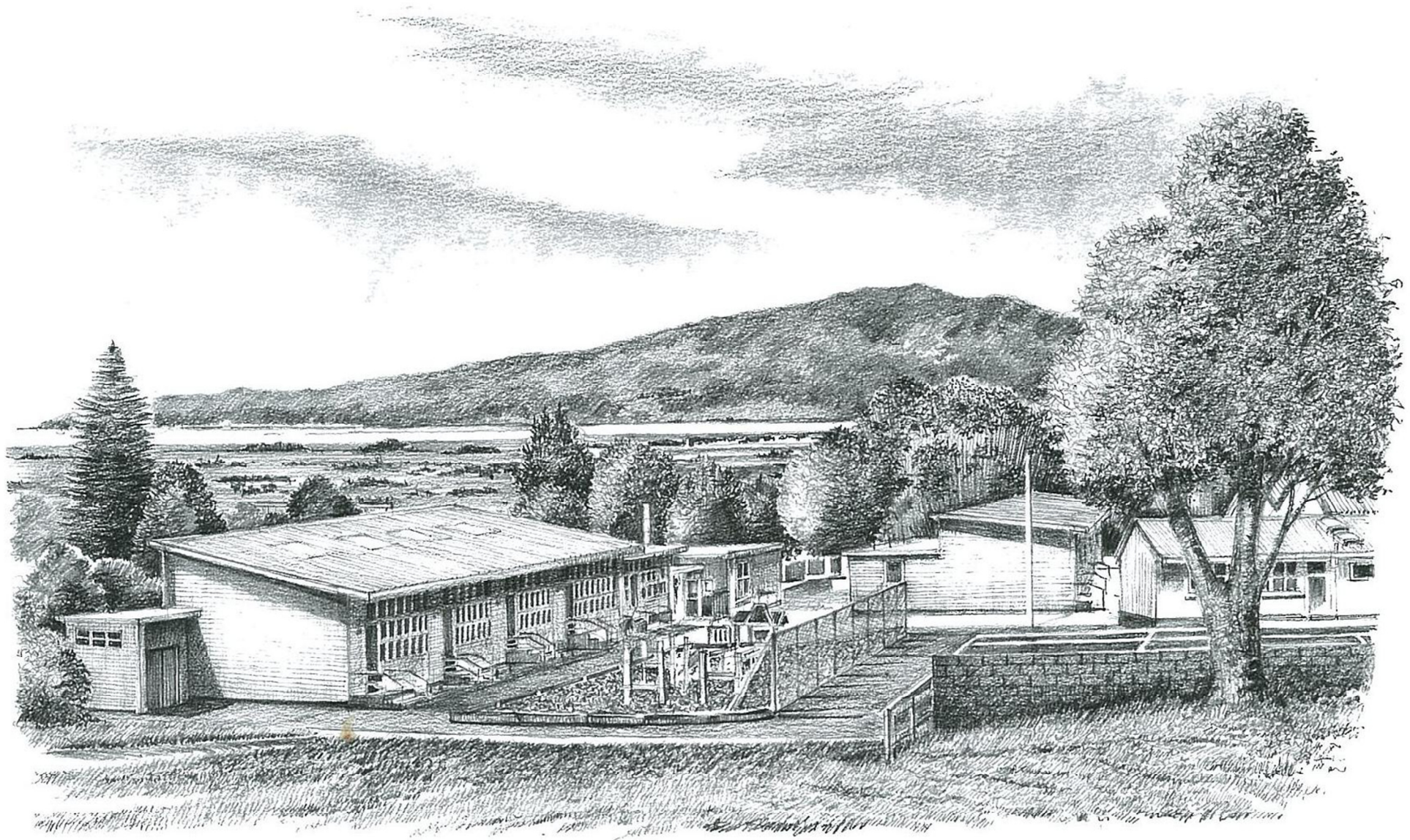


Analysis of the Best Fit Numeracy Levels

November 2011



About this Assessment Tool

This is a relatively ‘soft’ assessment tool that relies on the teacher’s observations of a student’s ability using ‘I can sheets’. Teachers can also assess students in the one on one NUMPA test. Due to the time consuming (10 to 15 minutes per student) nature of ‘one on one’ assessments this tool is used sparingly. Nevertheless the Numeracy Best Fit Level gives a good indication of a student’s level of *Number Knowledge* and the sophistication of their *Number Strategies*.

The Longitudinal Study percentages and expectations used in these graphs have been supplied by the National Numeracy Facilitation Team.

Expectations

Students rated as **“Well Below and At Risk”** are more than 1 year behind expectation and are sufficiently below expectations that their future learning in mathematics is in jeopardy. They may require special teaching, modified classroom programmes and extra support to continue their development and maintain positive attitudes.

Students rated as **“Below and Cause for Concern”** are up to but not more than 1 year behind expectation. They are at a stage where it is reasonable to expect classroom teachers to be able to move them to the expected stage.

Students rated as **“At”** are those students who are meeting expectations.

“Above or High Achievers” are more than 1 year ahead of expectations and may be sufficiently above expectations that they may require special teaching, modified classroom programmes and extra support to continue their development and maintain positive attitudes.

The Years One to Eight Longitudinal Study Norms are percentages that come from data collected for the Numeracy Project Longitudinal Study. The nearly 7,000 students in this study were in schools who continued collecting numeracy stage information, at the end of each year, after the initial Numeracy Development Project has finished in their schools. Although these percentages are not National Norms they are as close as we can get. They enable us compare our students’ performance with another referenced student group.

Acknowledgements to the National Numeracy Facilitation Team for the above information on Expectations and the Longitudinal Study Norms.

Description of Ethnic Groupings

Category	Number of Students in Test Group	Percentage of Test Group	Description
All	490	100%	All students tested from Year 1 to Year 8
Maori	52	11%	All students identified upon enrolment as Maori
New Zealand European	348	71%	All students identified upon enrolment as New Zealand European
Other	66	14%	This category includes all students identified upon enrolment as being Asian, South East Asian, Other and Other European
Pacific Peoples	24	5%	This category includes all students identified upon enrolment as being Samoan, Fijian, Cook Island Maori
Other Pacific Peoples	10	2%	This is a subset of the above group. This contains students from Kiribati, most of whom are new to the country and for whom English is a second language.

Achievement Summary

Performance by Year Group Cohorts

Performance in the Year Group Cohorts 1, 2, 4, 5 and 7 exceeded the percentages of the Longitudinal Study Cohorts

Performance in the Year Group Cohorts 3, 6, and 8 are slightly behind or close to matching the percentages of the Longitudinal Study Cohorts

The percentage of students performing Well Below or Below increases through the Year Groups from 14% at Year 1 to 48% in Year 8

It is interesting to note that while our performance generally exceeds or matches that of the Longitudinal Study Group we have an increasing percentage through the school of students falling beneath the Indicative National Standards cut off points.

Performance by Gender

There is no real difference in the overall performance between Boys and Girls

There is twice the percentage of boys performing at Above or High Achieving (22%) than Girls (11%)

Performance by Ethnicity Cohorts

Maori outperform 'NZ European' and 'All' with 67% being At or Above

Other Pacific Peoples are our poorest performing cohort with only 10% being At or Above

Performance Overtime

Overtime data has only been kept in this format for two years

The data shows that our Overall Performance in 2010 matches 2011. There is a slightly increased spread of achievement results in 2011.

Performance Target Group as per 2011 Charter

The performance of four of the six target groups improved and exceeded the target:

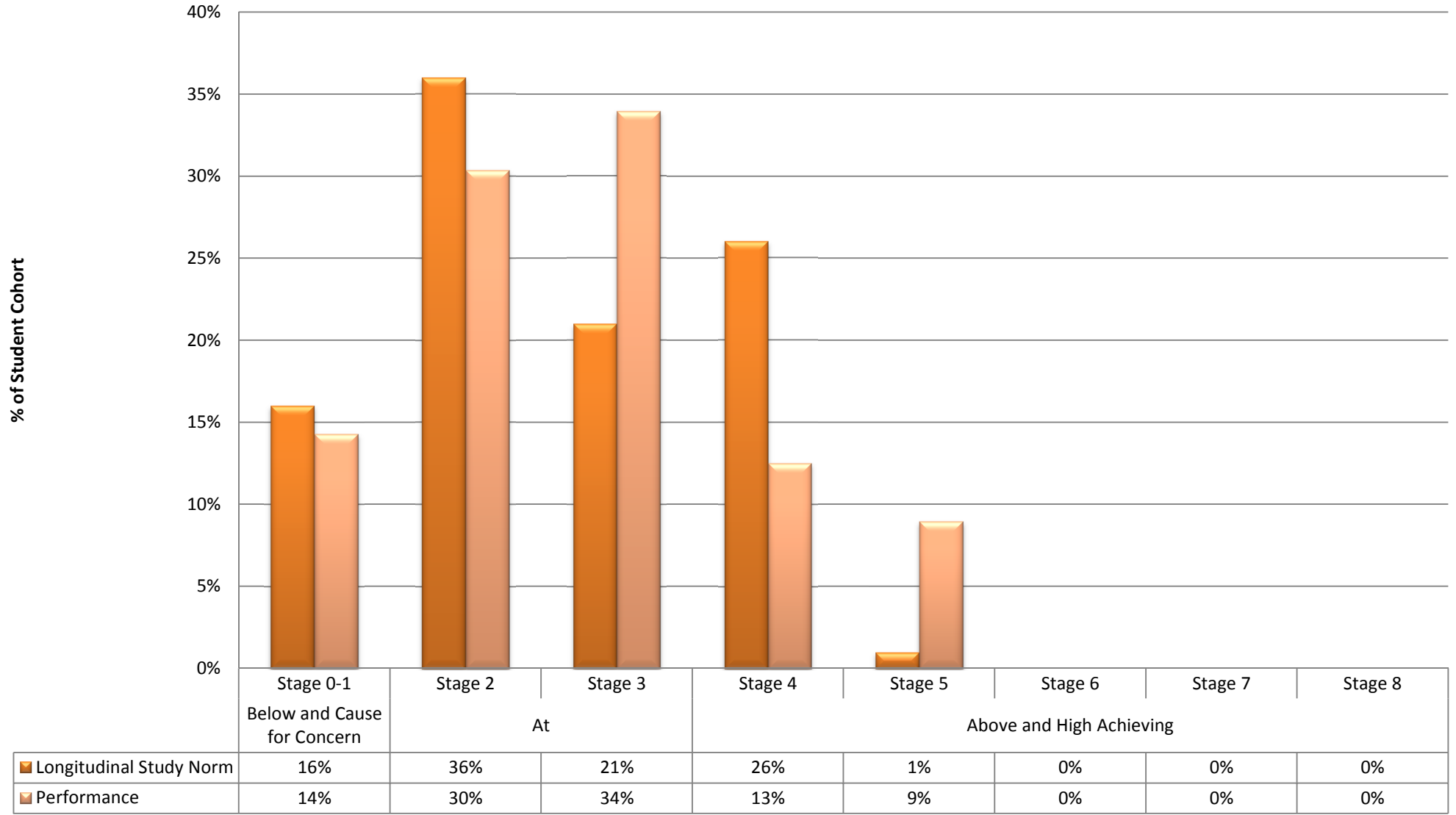
- The Maori Target Group had an exceptional lift in performance up 19% from the Baseline and exceeding the Target by 13%.
- The All Pacific Peoples Group also had an exceptional lift in performance up 23% from the Baseline. It is worth noting that although there was an exceptional lift in performance they failed to make the target of 81% at or above the minimum level by 6%.
- The Year 1 and 5 Cohorts also showed an improvement and exceeded the target, their performances sitting at the remarkably high level of 99/100% at or above the minimum desirable level

Interestingly two of the Target Groups, Year 3 and Year 7, not only failed to meet the Targets set but regressed.

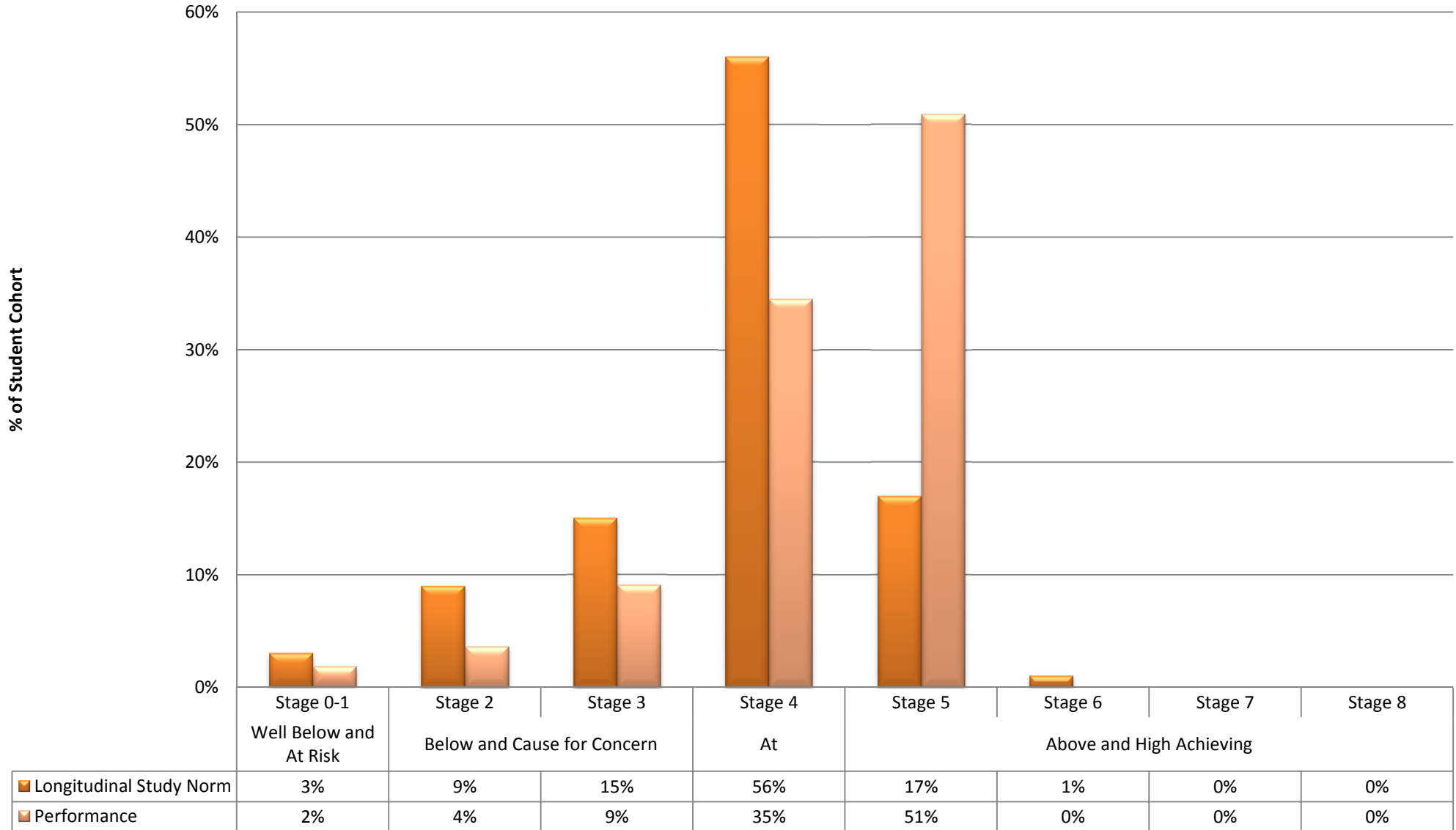
- The Year 7 cohort dropped from the baseline performance by 6% and missed the target by 14%
- The Year 3 cohort dropped from the baseline performance by 20% and missed the target by 22%

The variations between Cohorts Year 1 and 5 versus Cohorts Year 3 and 7 is very curious. It may not necessarily just be about student performance but rather may have something to do with the manner in which each syndicate determines the Best Fit Stage as well as the manner in which the Levels of Achievement are set

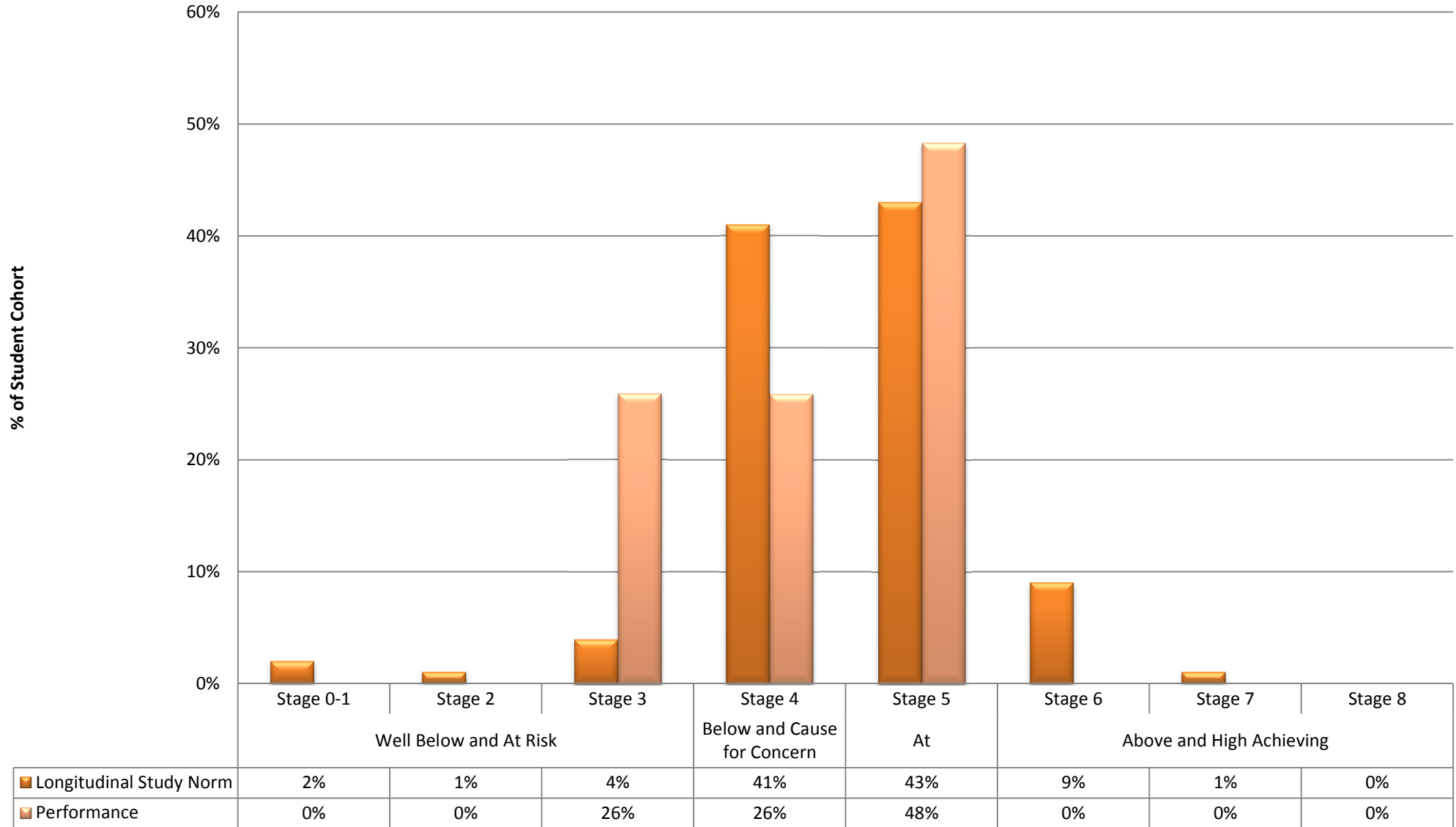
2011 Year 1 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms



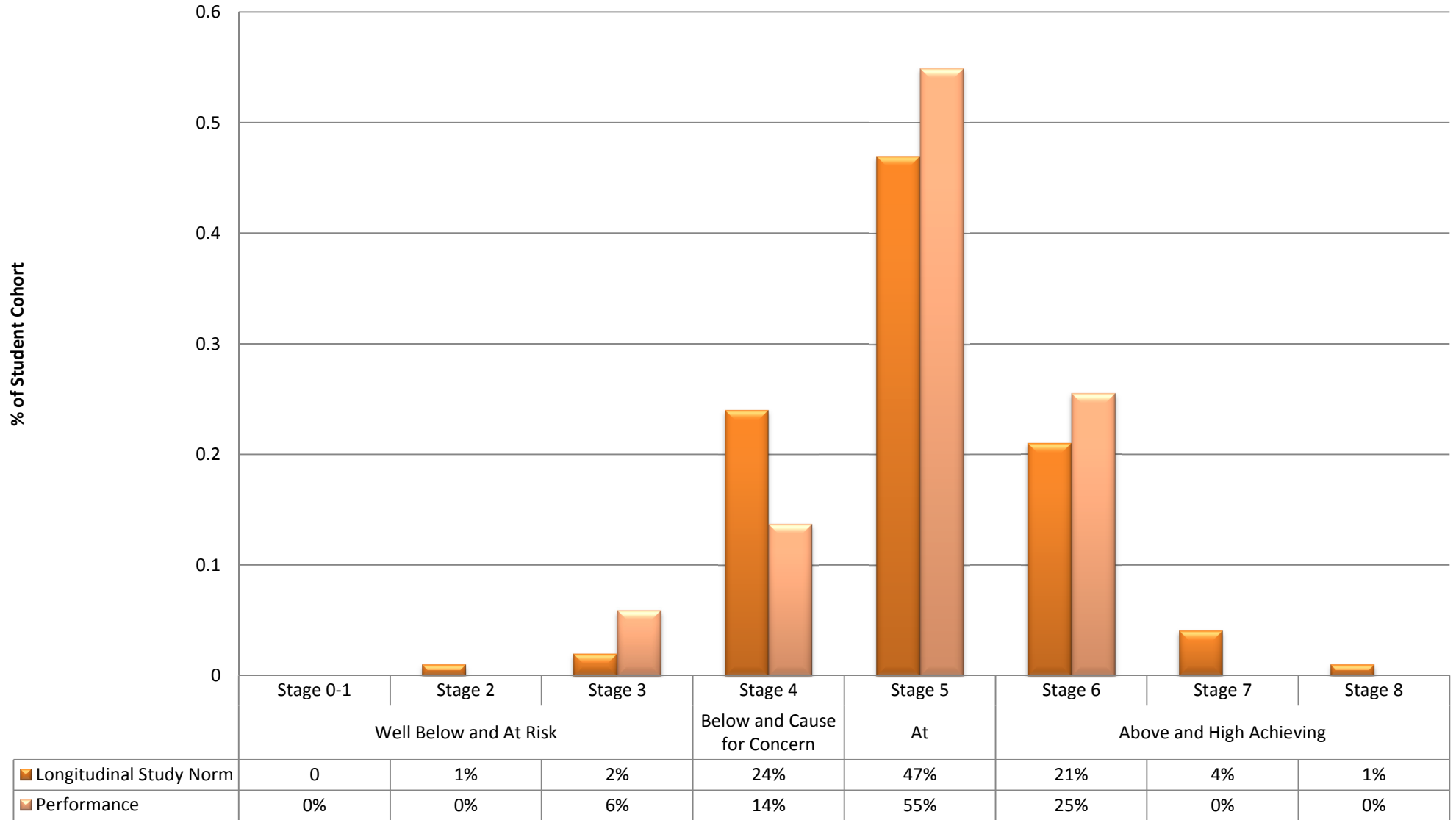
2011 Year 2 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms



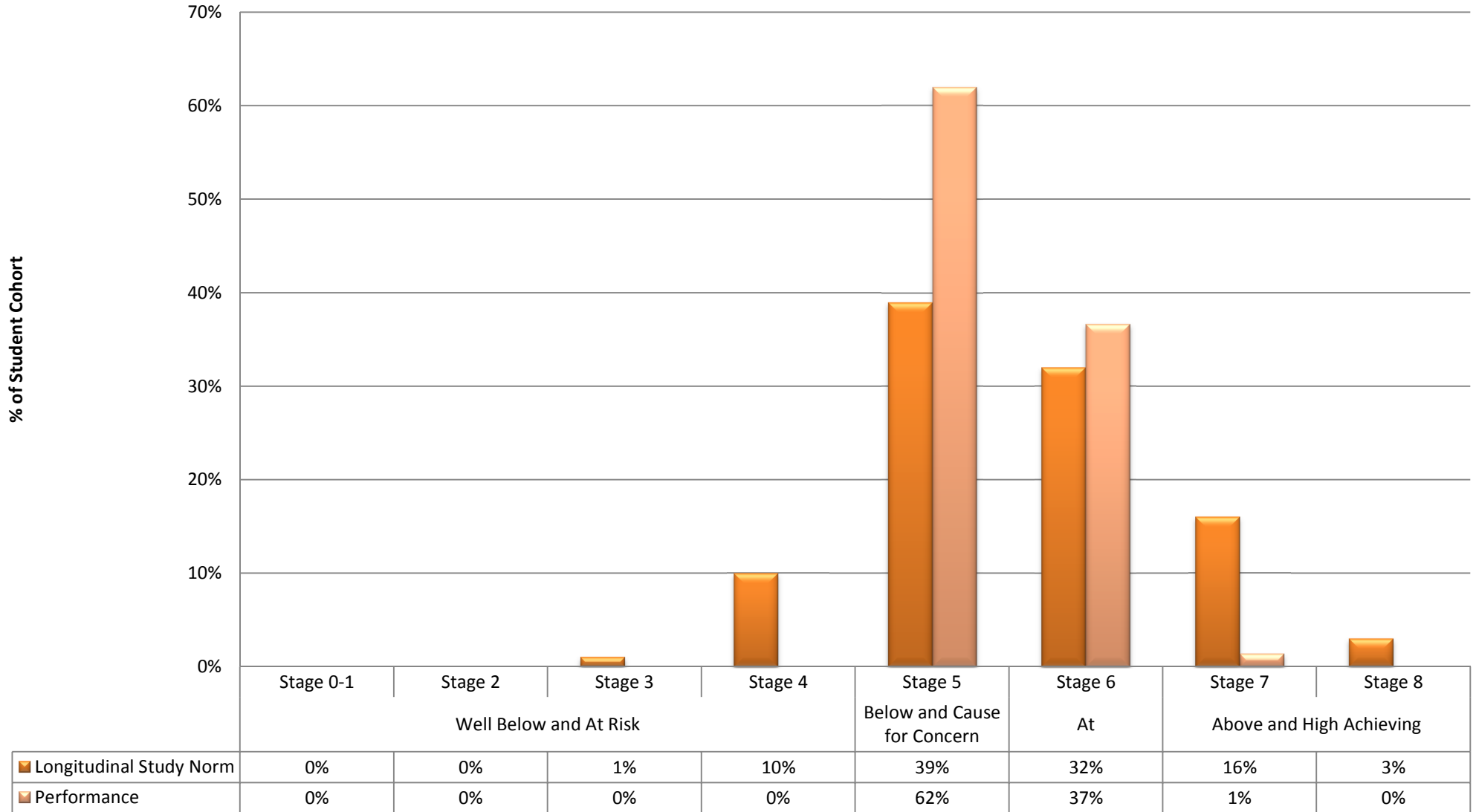
2011 Year 3 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms



2011 Year 4 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms

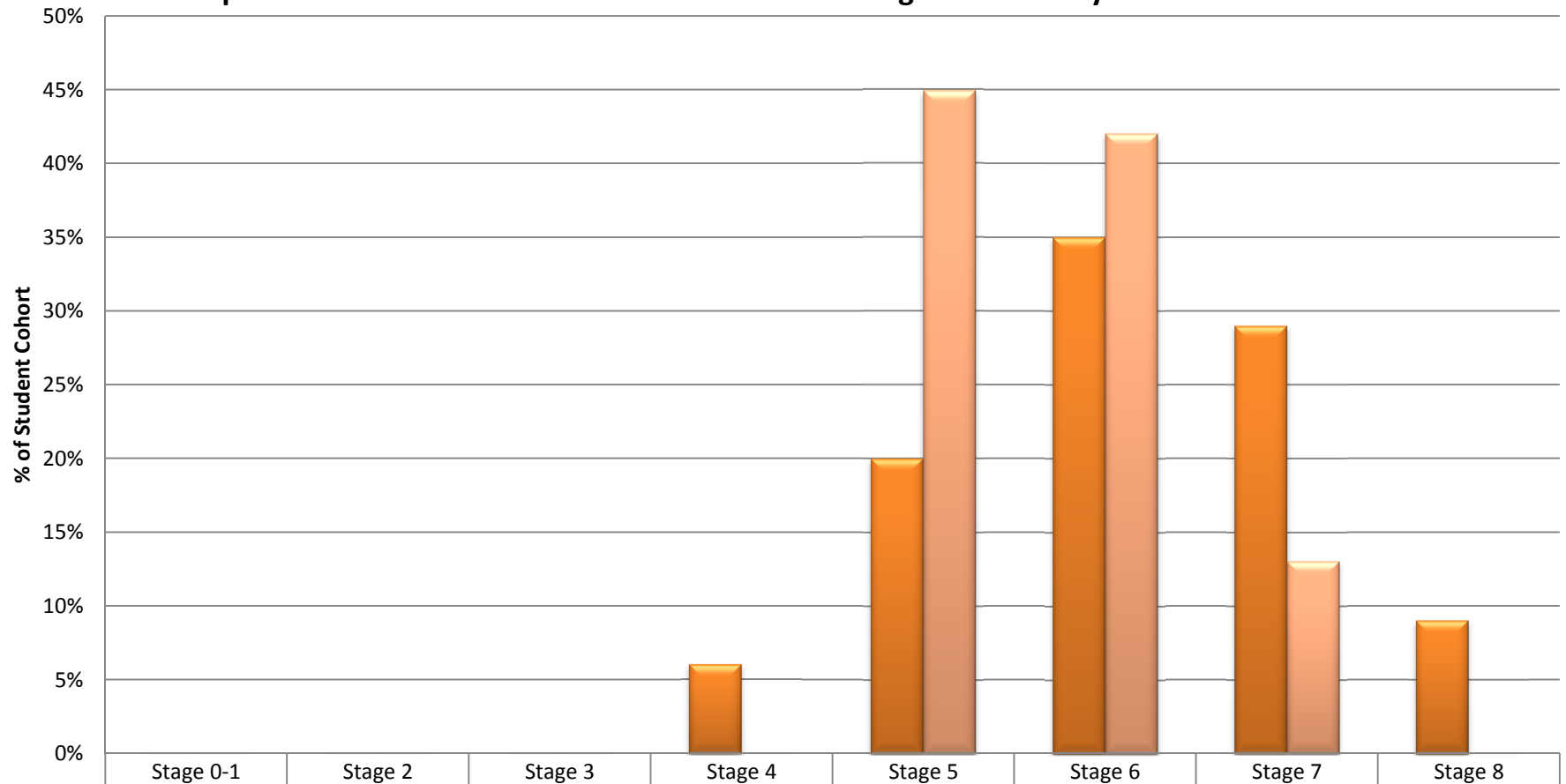


2011 Year 5 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms



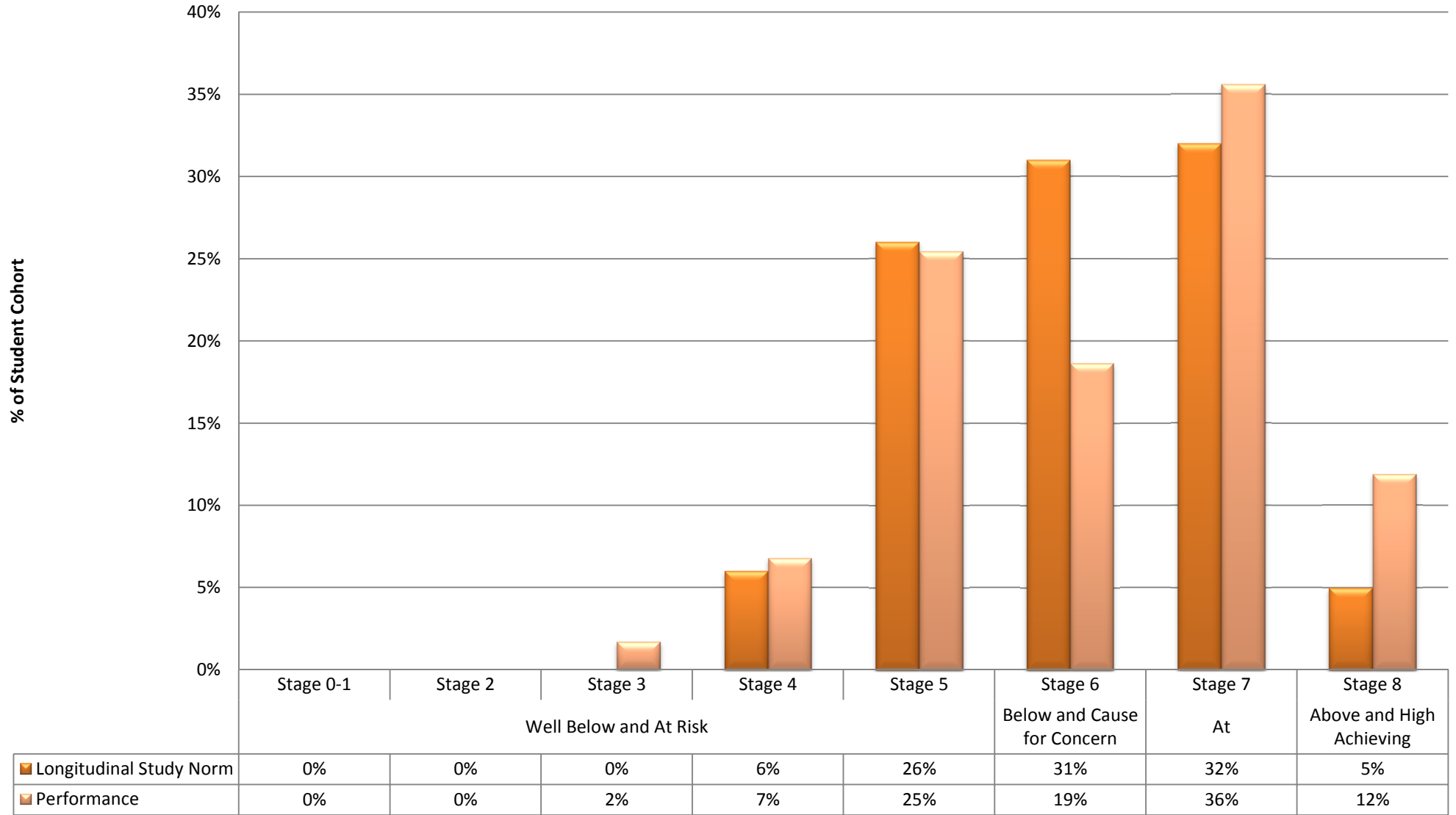
2011 Year 6 Best Fit Numeracy Stages

Comparisons to Indicative National Standards and Longitudinal Study Norms

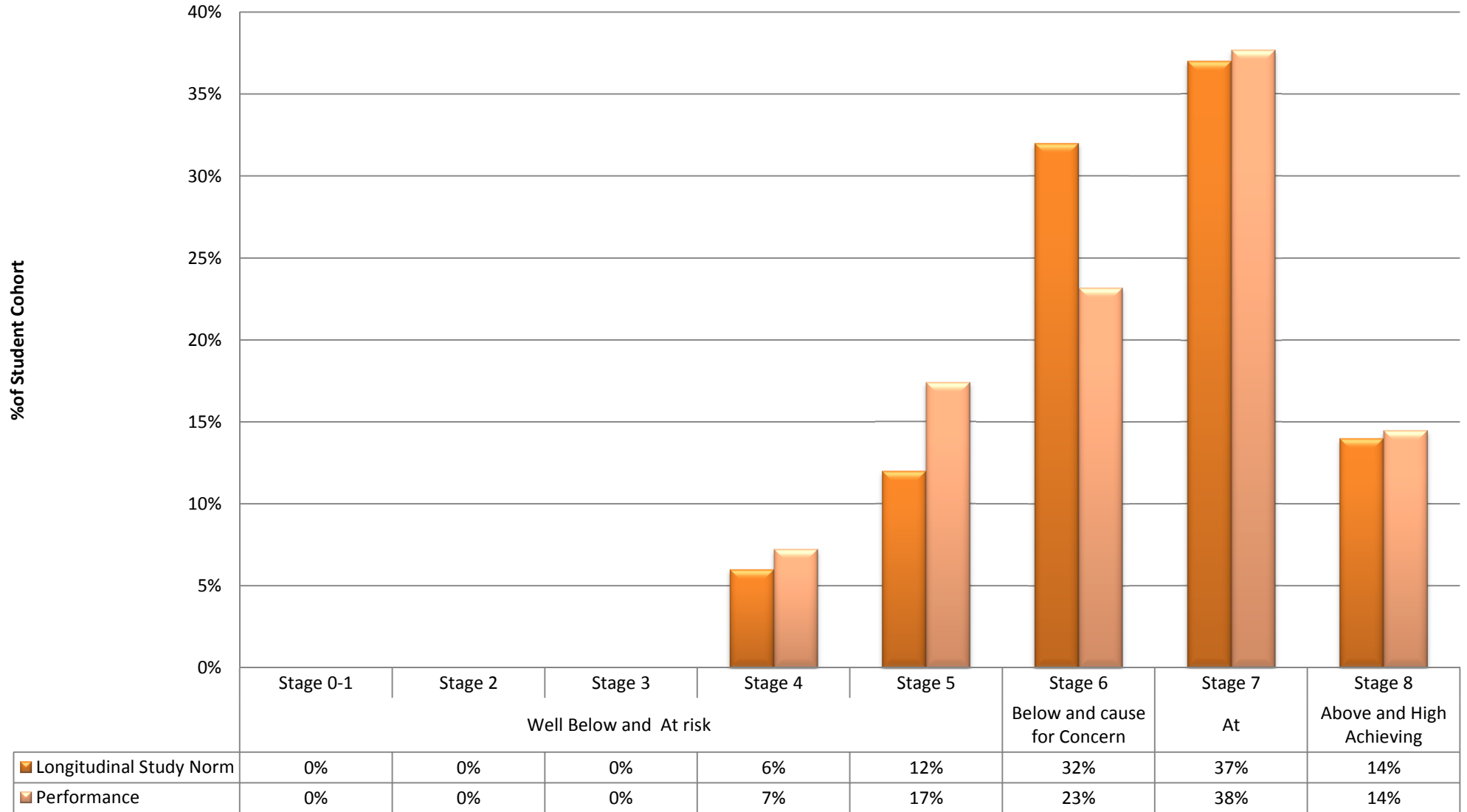


	Stage 0-1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6	Stage 7	Stage 8
	Well Below and At Risk				Below and Cause for Concern	At	Above and High Achieving	
Longitudinal Study Norm	0%	0%	0%	6%	20%	35%	29%	9%
Performance	0%	0%	0%	0%	45%	42%	13%	0%

2011 Year 7 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms

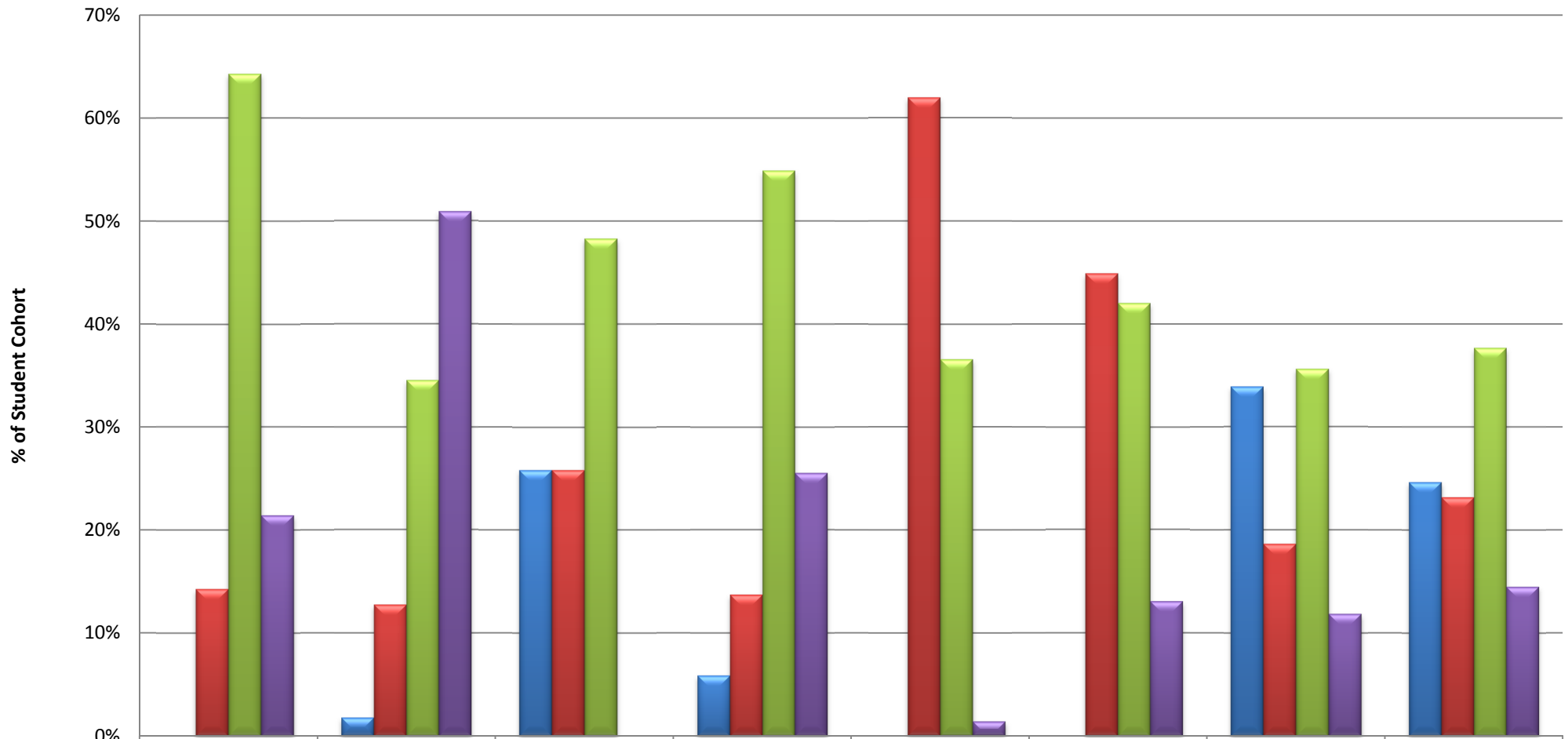


2011 Year 8 Best Fit Numeracy Stages Comparisons to Indicative National Standards and Longitudinal Study Norms



2011 Best Fit Numeracy Stages by All Years

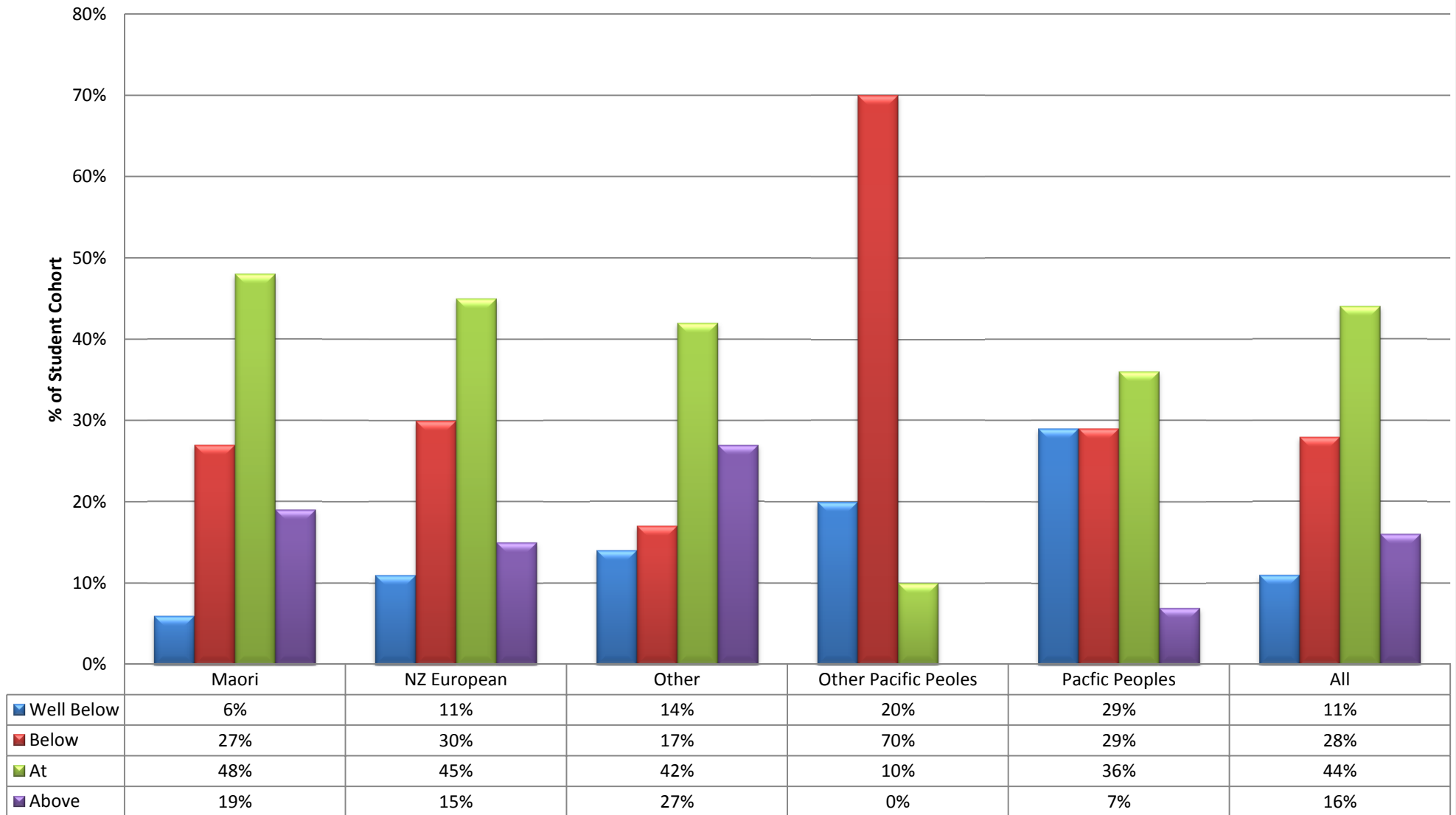
Comparisons to Indicative National Standards Well Below, Below, At and Above



	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Well Below	0%	2%	26%	6%	0%	0%	34%	25%
Below	14%	13%	26%	14%	62%	45%	19%	23%
At	64%	35%	48%	55%	37%	42%	36%	38%
Above	21%	51%	0%	25%	1%	13%	12%	14%

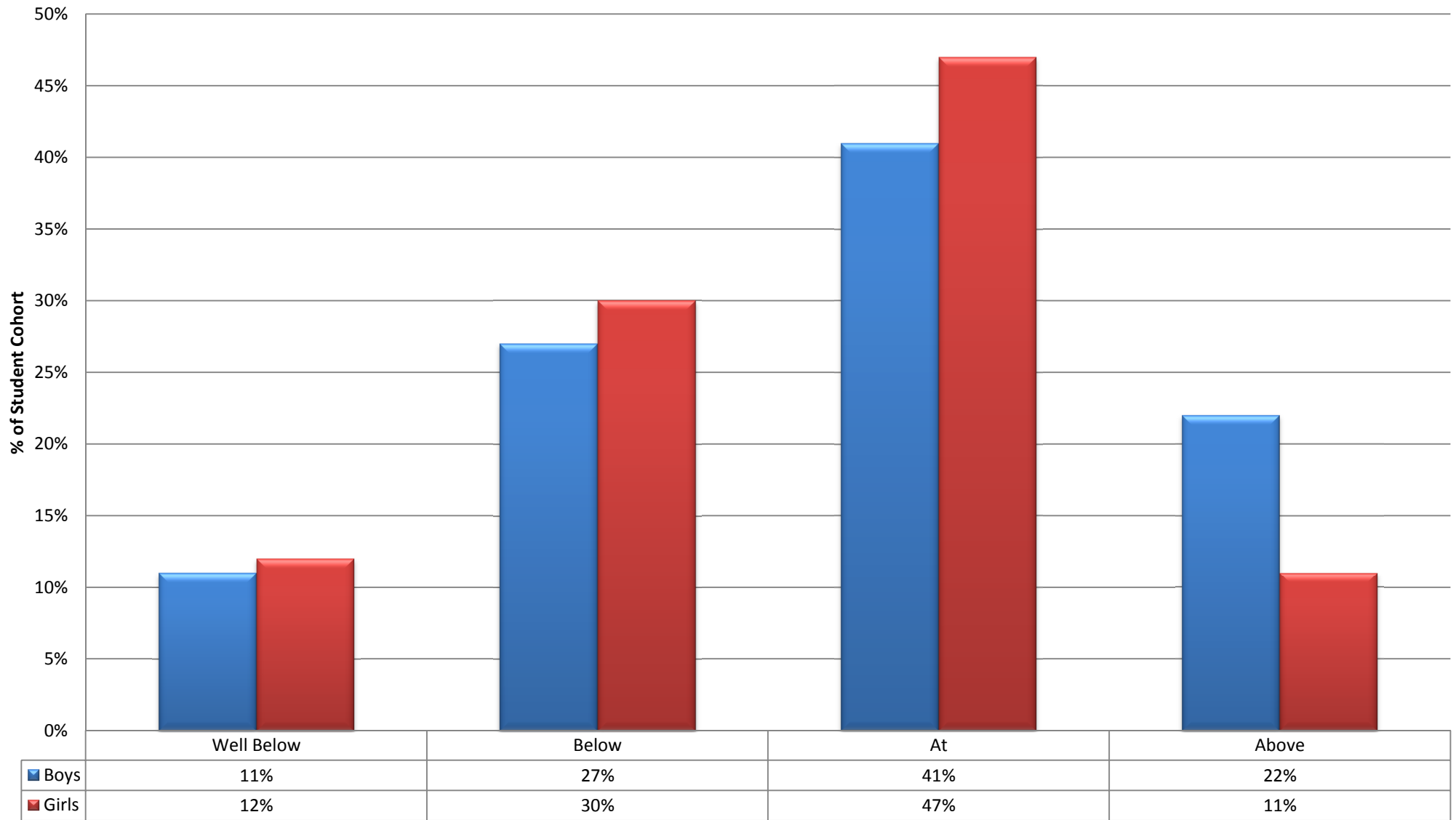
2011 Best Fit Numeracy Stages by Ethnicity

Comparisons to Indicative National Standards Well Below, Below, At and Above



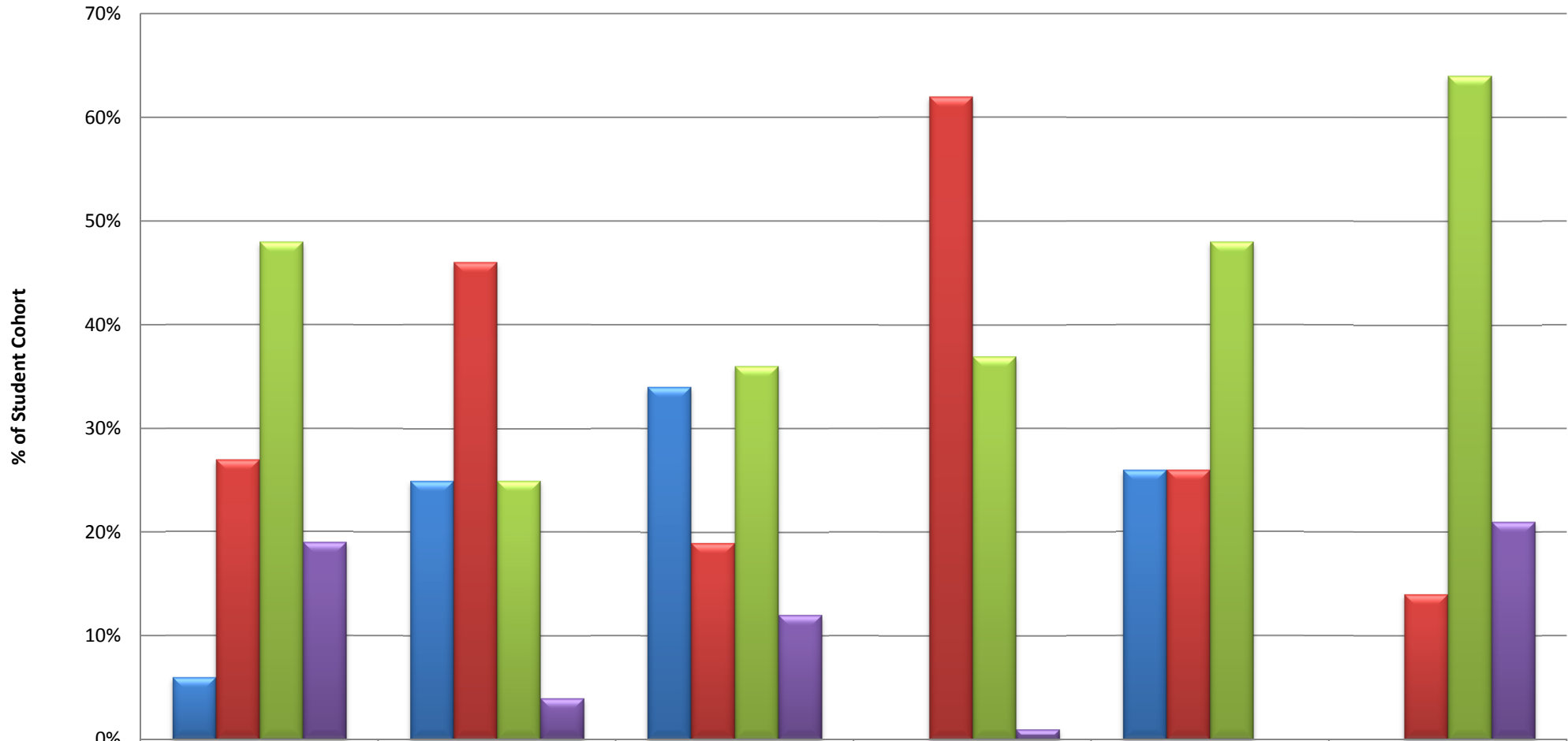
2011 Best Fit Numeracy Stages by Gender

Comparisons to Indicative National Standards Well Below, Below, At and Above



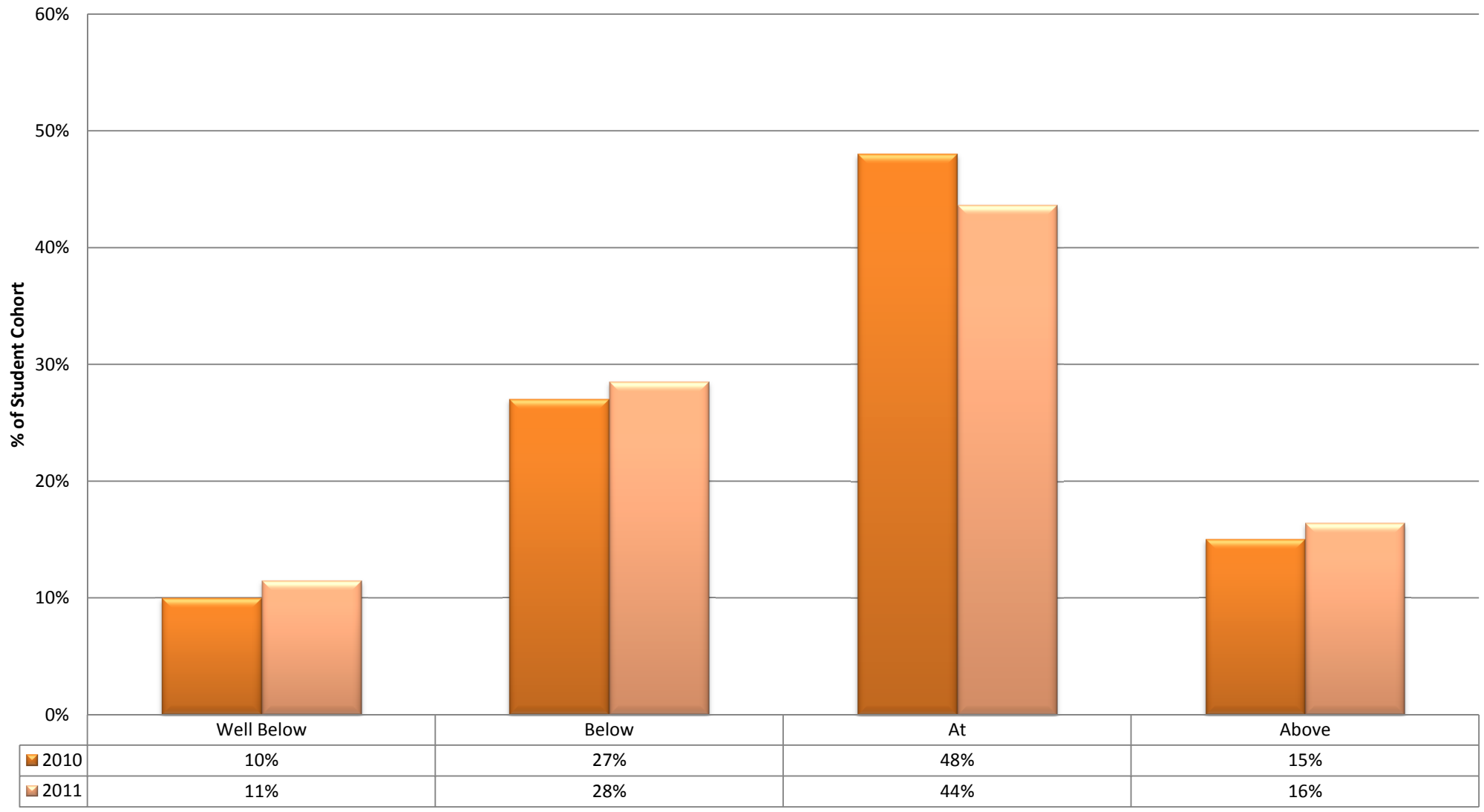
2011 Best Fit Numeracy Stages by Target Group

Comparisons to Indicative National Standards Well Below, Below, At and Above



Well Below	6%	25%	34%	0%	26%	0%
Below	27%	46%	19%	62%	26%	14%
At	48%	25%	36%	37%	48%	64%
Above	19%	4%	12%	1%	0%	21%

Best Fit Numeracy Stages Overtime
Comparisons to Indicative National Standards
Well Below, Below, At and Above
2010 V 2011



2011 Best Fit Numeracy Stages by Target Group
Base Line V Target V Performance
Percentage of Students At or Above Minimum Desirable Level
('Below and At Risk' or better)

