

# Analysis of Variance Reporting



<b>School Name:</b>	Aberdeen School	<b>School Number:</b>	1680
<b>Strategic Aim:</b>	All students are able to access the New Zealand Curriculum as evidenced by progress and achievement in relation to the child's appropriate Curriculum Level in Reading, Writing and Mathematics.		
<b>Annual Aim:</b>	To raise student achievement across the school by at least 5%, in line with our Community of Learning's achievement goal		
<b>Target:</b>	To increase the achievement level of students working Below expected Curriculum Level, in Years 2, 3 & 4.		
<b>Baseline Data:</b>	<p><b>Summary of Achievement 2018</b></p> <p><b>Whole School: 86% At or Above Expected Curriculum Level</b></p> <p><b>All Māori: 77% At or Above Expected Curriculum Level</b></p> <ul style="list-style-type: none"> <li>• There are lower achievement rates of students at the end Year 2, particularly for Māori. It is intended that by targeting the needs of all students identified as 'below', a shift in the percentage of students achieving 'At' the expected Curriculum level by the end of 2019 will occur.</li> <li>• In light of the Mathematics Achievement data for 2018 the focus for 2019 was to continue to lift achievement levels for students not achieving at expected Curriculum level, with particular focus on Years 2, 3 &amp; 4</li> </ul>		

All Students		Māori Students	
Benchmark Level	% At/Above Expected Curriculum Level 2018	Benchmark Level	% At/Above Expected Curriculum Level 2018
End of Year 1	85%	End of Year 1	80%
End of Year 2	69%	End of Year 2	60%
End of Year 3	80%	End of Year 3	78%
End of Year 4	76%	End of Year 4	72%
End of Year 5	76%	End of Year 5	74%
End of Year 6	80%	End of Year 6	89%

Pasifika students: 79% At or Above (small cohort 24/683)

Actions <i>What did we do?</i>	Outcomes <i>What happened?</i>	Reasons for the variance <i>Why did it happen?</i>	Evaluation <i>Where to next?</i>																												
<p>A whole staff professional learning session was held in Term 1 to demonstrate how Formative Assessment can be integrated in the classroom Mathematics programme - with ideas that promote effective Mathematics pedagogy.</p> <p>At the beginning of the year data was analysed and children working Below the expected curriculum level were identified and set as a Priority Group in etap, to allow ease of monitoring and tracking.</p> <p>Each classroom teacher identified a group of students in their class, with a focus on Māori and Pasifika students, whose progress they intended to accelerate. Target students were tracked closely.</p> <p>In Years 3 and 4 students working below the expected curriculum level were identified and selected for the Mathematics Support Programme Groups in consultation with their class teachers and the Mathematics</p>	 <p>Student achievement against Expected Curriculum Level in Mathematics End of Year 2019</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Year 1</td> <td>85%</td> </tr> <tr> <td>Year 2</td> <td>75%</td> </tr> <tr> <td>Year 3</td> <td>80%</td> </tr> <tr> <td>Year 4</td> <td>82%</td> </tr> <tr> <td>Year 5</td> <td>67%</td> </tr> <tr> <td>Year 6</td> <td>71%</td> </tr> </tbody> </table> <p>Māori Students achievement against Expected Curriculum Level in Mathematics End of Year 2019</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Year 1</td> <td>85%</td> </tr> <tr> <td>Year 2</td> <td>74%</td> </tr> <tr> <td>Year 3</td> <td>72%</td> </tr> <tr> <td>Year 4</td> <td>78%</td> </tr> <tr> <td>Year 5</td> <td>72%</td> </tr> <tr> <td>Year 6</td> <td>72%</td> </tr> </tbody> </table>	Year	Percentage	Year 1	85%	Year 2	75%	Year 3	80%	Year 4	82%	Year 5	67%	Year 6	71%	Year	Percentage	Year 1	85%	Year 2	74%	Year 3	72%	Year 4	78%	Year 5	72%	Year 6	72%	<p>Improvements in Years 3 and 4 occurred as a result of:</p> <p>Years 3 and 4 teachers' trialling a range of effective teaching practices to engage students in mathematics learning. This included mathematical discussion and the use of equipment and visual representations to enable students to demonstrate their thinking.</p> <p>The Year 3 team worked collaboratively with the Mathematics Support teacher over the whole year to accelerate learners who were below and well-below – showing pleasing gains on the previous year's data. This involved tracking progress, effective classroom practice and engaging whanau. The Year 3-4 teacher in the partial immersion class continued to build on new learning from the support gained in 2018.</p> <p>Targets in other areas of the school not achieved may be the result of:</p> <p>The introduction of a new assessment tool for Number Knowledge. Although it is a</p>	<p>With the introduction of Formative Assessment in place, alongside a new assessment tool, we will continue to build on integrating new practice in the classrooms. This will include the use of progressions in 'children's speak' and rubrics that encourage the use of learning intentions. This will support teachers with tracking individual learners progress using a pink and green highlighting system as well as promoting student agency.</p> <p>Work will continue around the implementation and analysis of the Mathematics PAT as a tool for guiding teaching and measurement of student progress.</p> <p>The mathematics lead teacher will continue to work with groups of priority learners – concentrating on Years 5 and 6 in the first half</p>
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Lead teacher. The support groups consisted mostly of Year 3 students over the whole Year, and Year 4 students during Term 3.

A meeting was held for the Years 3 and 4 teachers with a focus on using etap to track student progress over the year.

Cathie Johnson from NZCER education services ran a meeting for the Year 3-6 teachers, with a focus on selecting the correct Mathematics PAT test for a range of students and reading scale scores to analyse the progress a student has made over time.

The Mathematics Lead teacher offered morning workshops in Term 3 to support teachers with new pedagogy and worked alongside 3 teachers in their classrooms to model effective practice and new ideas.

Two of the Year 2 teachers attended a Numicon workshop with the intent to explore a variety of equipment that can be used to promote learners number sense. The new learning was shared with their team members.

### Data Analysis on Mathematics targets:

To increase the achievement level of students working Well Below / Below expected Curriculum, in Years 2, 3 & 4.

35% of all students working well below or below were accelerated

	No. Students Well Below / Below Curriculum Level Term 4 2018 (Priority Students)		No. Students Well Below / Below Curriculum Level Term 4 2019 (Priority Students)		% of Priority Students Accelerated (more than 1 yrs. progress in a year)	
	Well Below	Below	Well Below	Below		
Yr 1	0	16	Yr 2	7	6	31% (5)
Yr 2	4	29	Yr 3	8	8	56% (18)
Yr 3	3	16	Yr 4	4	9	32% (6)
Yr 4	8	17	Yr 5	7	16	20% (5)
Yr 5	7	15	Yr 6	10	18	13% (6)
Totals	22	93		36	57	35% (40)

As the table above shows 40/115 Priority Students made accelerated gains in Mathematics, a total of 35% across the school.

### Broken down further:

18% of students achieving at 'Well Below' made accelerated progress, 4/22 students.

31% of students achieving at 'Below' made accelerated progress, 29/93

formative assessment tool, it was predominantly used in a summative manner.

Changes in assessment tools and implementation introduced as teachers are required to 'dig a bit deeper' to ensure conceptual understanding of mathematics is occurring rather than predominant memorisation of procedures.

Noticing the application of new learning in the classroom is possibly changing the way teachers make their OTJs and how they implement our current assessment tools.

The Year 5 and 6 teams did not receive the support they have in previous years, a new teacher in Year 5 may have benefited from extra assistance from the Mathematics Lead Teacher.

New pedagogical learning for teachers across the school as they trial strategies that promote the conceptual understanding of mathematics. Some teachers have discussed the challenges of balancing procedural and conceptual learning in the classroom.

This is particularly relevant for the Senior classrooms as they have cross-grouped in the past and are exploring new grouping practices within their classrooms.

of the year, and Years 4 and 2 in the second half.

The mathematics lead teacher will work more closely with teams across the school during their team meetings to focus on needs specific to their year group. Suggestions from feedback have been:

- Modelling equipment
- Promoting mathematical discussion
- Choosing rich tasks
- Setting up workstations
- Basic facts fluency

The Mathematics lead will allow more time in her timetable to get into a range of classrooms to support teachers with new changes and learning.

There will be a whole school focus on setting up classroom structure for ease of managing group lessons and providing independent activities that target specific learning needs. Particular support will be offered for teachers in the Senior school

Some in-class support was given to one of the Year 2 teachers in Term 1.

A release teacher provided support for the Year 2 teachers in Terms 2 and 3 once a fortnight, working with priority students and modelling teaching resources that promoted number sense and conceptual understanding in mathematics.

#### Planning for next year:

- Improve and develop strategies to assist students to reach the 2020 achievement target.
- Improve whole school consistency with formative assessment practices such as the use of mathematics progressions rubrics and highlighting system
- Improve implementation of new Number Knowledge assessment as a formative rather than summative tool
- Improve mathematics leadership by breaking goals into manageable chunks and allowing enough time to support teachers in classrooms.

The fortnightly support given to the Year 2 team for priority learners may have been more valuable with more frequency.

as they are adjusting to the most change.

The mathematical disposition of learners (both students and teachers) will be a consideration as learners grapple with new concepts – so as not to increase maths anxiety.