

2017 Annual Report Analysis of Variance



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Please note: -

This Analysis of Variance report is in a form in which individual students cannot be identified to protect student privacy as per NAG2A and the Privacy Act 1993.

Summary of Student Achievement Targets in 2017

Please note that while the school is focusing intensely on accelerating learning for identified smaller group of individuals, the focus is also on raising achievement levels in identified cohorts of students in the school that have not previously been achieving at expected levels.

Target 1 – Mathematics

To continue to increase the percentage of students who are achieving at or above the National Standard in mathematics by December 2017, especially in the identified target groups of Māori and Year six students.

In particular these cohort groups will be accelerated so that they are at least achieving at or above the mathematics standard by December 2017:

- 60% (ie: 3/5) of identified Māori students
- 80% of Māori student cohort
- 75% (ie: 3/4) of identified Year 6 students
- 80% of the Year 6 cohort

In 2017 the target for Māori students was not met. By December there were

- 2/5 (ie: 40%) of identified Māori students were achieving at or above the mathematics standard by December. To reach the 60% target another one student needed to achieve at this level.
- 30/41 (ie: 73%) Māori students were achieving at or above the mathematics standard by December. To reach the 80% target another three students needed to achieve at/above the standard.

Although the target for the identified group of Year 6 students was not met in 2017, the target for the whole Year 6 cohort was met:

- 2/4 (ie: 50%) of identified Year 6 students were achieving at or above the mathematics standard by December. To reach the 75% target another one student needed to achieve at this level.
- 40/47 (ie: 85%) Year 6 students were achieving at or above the mathematics standard by December, which was above the 80% target.

Target 2 – Writing

To continue to increase the percentage of students who are achieving at or above the National Standard in writing by December 2017, especially in the identified target groups of Boys, Māori and Year six students.

In particular these cohort groups will be accelerated so that they are at least achieving at or above the writing standard by December 2017.

- 76% (ie: 19/25) of identified Boys
- 80% Boys
- 66% (ie: 3/5) of identified Māori students
- 80% Māori
- 75% (ie: 6/8) of identified Year 6 students
- 75% Year 6 students

In 2017 the targets for Boys were not met by December as there were:

- 16/25 (ie: 64%) met the target. Three more students needed to reach the standard to meet the target goal of 76% achieving at/above standard for this target group.
- 101/149 (ie: 68%) met the target. A further 19 students needed to reach the standard to meet the target of 80% boys achieving at/above the standard by December.

Although the target for the whole Māori cohort was not achieved, the target for the identified group of Māori students was:

- 3/4 (ie: 75%) met the target of 66%.
- 31/41 (ie: 75%) achieved at/above the standard. A further two students needed to do this to make the 80% target set.

While the target for the whole Year 6 cohort was met, the identified group of Year 6 students target was not:

- 4/7 (ie: 57%) met the required standard. A further two students were required to meet the 75% target set.
- 37/47 (ie: 79%) met the required standard so exceeded the 75% target set.

Full Report of Student Achievement Targets and Analysis of Variance for 2017

Mathematics

This is the seventh year the school has reported mathematics progress against National Standards. Although multiple sources of data were used to place students on the scale (Well Below, Below, At, Above), reliability of the data presented in this report is influenced by individual teacher interpretation of the standards, and the large number of students moving in and out of the school. Through further professional development, practice and moderation teachers at Bellevue School (and nationwide) continued to deepen their professional understanding/capability in assessments against the standards; also in reviewing and refining the moderation processes for OTJ's to more closely align teacher judgments.

A group of Year 5 students and Māori students were identified as achieving below the expected level of progress in mathematics in December 2016. These became the target groups for accelerated mathematics learning in 2017. Results for all students are recorded in a table below, with the target groups' progress included in the second table.

Target 1 – Mathematics

To continue to increase the percentage of students who are achieving at or above the National Standard in Mathematics by December 2017, especially in the identified target groups of Māori and Year six students.

Outcomes/What Happened

Whole School Mathematics Data (comparing mathematics OTJ's for 2017, 2016, 2015 and 2014)

Mathematics	Well Below				Below				At				Above			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
December	10	6	6	2	40	44	36	43	154	157	193	220	45	55	48	30
	4%	2.3%	2.1%	1%	16.1%	16.8%	12.7%	14%	61.8%	59.9%	68.2%	75%	18.1%	21%	17%	10%
Boys	6	4	5	2	23	22	16	21	85	80	93	111	20	29	23	15
	4.5%	3%	3.6%	1%	17.2%	16.3%	11.7%	14%	63.4%	59.3%	67.9%	75%	14.9%	21.5%	16.8%	10%
Girls	4	2	1	0	17	22	20	22	69	77	100	109	25	26	25	15
	3.5%	1.6%	0.7%		14.8%	17.3%	13.7%	15%	60%	60.6%	68.5%	75%	21.7%	20.5%	17.1%	10%
Māori	1	1	1	0	10	8	8	11	18	21	30	30	3	3	2	0
	3.1%	3%	2.4%		31.3%	24.2%	19.5%	27%	56.3%	63.6%	73.2%	73%	9.4%	9.1%	4.9%	
Pasifika	1	0	0	0	3	3	5	3	6	7	8	14	2	0	0	0
	8.3%				25%	30%	38.5%	18%	50%	70%	61.5%	82%	16.7%			

- 85% of 'All Students' were judged to be achieving at or above standards by December 2017 (compared with 79.9% in 2014, and 80.9% in 2015 and 85.2% in 2016) ie: an increase of 5.1% students over the four years
- Although the percentage of all students at/above has steadily increased over the years, the proportion of 'All students' above the standard has decreased in the past two years.
- The Girls cohort judged as achieving at/above from 2014 – 2107 has shown an increase of 3.3% over the four years (ie: 81.7% - 81.1% - 85.6% - 85%). There are 11.7% fewer Girls judged to be achieving at/above over the four year period.

- The percentage of Girls judged as achieving well below and below has decreased from 2014 – 2017 with 3.3% improvement noted in the Girls cohort over the four years. There are no girls achieving well below in 2017.
- The Boys cohort judged as achieving at/above has improved from 2014 (78.3%) and through the following four years to 2017 by 6.7% (ie 78.3% - 80.8%- 84.7% - 85%). There are fewer boys judged to be achieving above the standard from 2015 – 2017 by 11.5%.
- Percentage of Boys judged as achieving well below and below has decreased from 2014 – 2017 with 6.7% improvement noted in the Boys cohort over these four years.
- As a cohort Māori students' judged to be achieving at/above in Maths increased from 2014 – 2016 with a slight decline to 73% in 2017 (this difference was due to two students less achieving at/above). Although the figures from 2014- 2017 show 65.7% - 72.7% - 78.1% - 73% at/above, there are now 7.3% more Māori students judged to be achieving at/above in Maths than four years previously with an increase of 5.4% more achieving at/above the standard in 2016 than in 2015. No Māori students were judged to be achieving well below or above standard in 2017.
- Pasifika students' cohort has increased achievement from 2014 – 2017, with a dip in achievement in 2016 (ie: 66.7% - 70% - 61.5%- 82%). There were 20.5% more Pasifika students judged as achieving at/ above the standard in 2017 compared with 2016, and an increase of 15.3% over the four years. However these percentage figures represent a very small cohort as achievement trends tracked 12 students in 2014, 10 in 2015, 13 in 2016 and 17 in 2017.

Target Groups Mathematics Data

The target was to move at least 3/5 Māori students (or 60%) and at least 3/4 Year 6 students (or 75%) who were achieving below the mathematics standard in 2016 as Year 5 students to achieve at or above the standard by December 2017, along with increasing the number of students in both the Māori and Year 6 cohort groups in 2017.

Number of students and the target % to achieve at/above by December from 2016 Annual Plan	Above	At	Below	Well Below	Total at/above by Dec	% at/above by Dec	% - Below in Dec	Performance Outcomes
Māori students: at least 3/5 students (ie:60%) to achieve at/above by December		2	3		5	40%	60%	Not Achieved – needed to move one more student to reach the 60% target.
Total Māori students: at least 80% achieving at/above standard by December	0	30	11	0	30	73%	27%	Not Achieved – needed to move three more students to reach the 80% target.
Year 6 Students: 3/4 students (75%) to achieve at/above by December		2	2		2	50%	50%	Not achieved - needed to move one student to reach the 75% target.
Total Year 6 students: at least 80% achieving at/above standard by December	6	34	7	0	40	85%	15%	Achieved.

Although the targets were not met for the small identified Year 6 group or both Māori target groups, individual students moved to achieve at the standard while other students improved but not sufficiently to be judged as achieving at the expected standard by December. Mathematics achievement continues as a target for 2018.

Actions to Achieve Targets/What was done:-

- Mathematics leadership to improve understanding of expected achievement level/National Standard and delivery of mathematics programmes.
- Mathematics resource teacher undertook MST (Mathematics Supplementary teacher) training initiative and took small groups to accelerate achievement.
- Clarified processes for data collection school wide. Data used to make Overall Teacher Judgements (OTJ's) for each identified student against the mathematics standard.
- Provided further professional learning development, practice and feedback for making OTJ's and for moderation of OTJ's.
- Trialled use of PACT to assist OTJ's of Mathematics achievement.

- Deeper analysis of collated data to determine progress and next steps.
- Deliberate teacher action to improve personalised learning pathways for these students, to engage with their families about their mathematics goals and how they could support these at home.
- Planning/implementing daily programmes to improve mathematics strategies and knowledge by adapting programmes for individual learning needs and small group/individual intervention programmes implemented.
- Variety of assessment tools/tasks used to assess student achievement/inform teaching, including PAT, JAM, GLOSS, Number Knowledge and Basic Facts.
- Consistent encouragement/opportunities for students to regularly self-assess their mathematics, talk about their progress towards their goals and share their progress with others.
- E-learning programmes eg: Mathletics, e-ako maths.

Reasons for Variance/Why it happened:-

- Special needs student achievement (ie: Ongoing Resource student data) is included in the data. The number of ORS/High Learning Needs students can vary substantially from year to year.
- Student transitions ie: movement in and out of the school. The number of students who move in and out of the school shows a significant variation in the numbers of students in each cohort group from year to year.
- Clarified expected learning progressions (poutama) for students as they move through the school.
- Teacher focus on differentiating programmes to teach to student needs. Planned and implemented deliberate teaching actions to address learning areas that need acceleration, including regular meetings to discuss target student progress and adaptations to programmes.
- Professional Learning Development support in mathematics and for making/moderating OTJ's – ie: more robust assessments.
- Teachers inquiring into practice, and seeking colleague advice/assistance to adapt programmes for individual student needs.
- Teacher variability in making OTJ's and moderating these.
- Very small numbers of students in some of the target groups has a larger effect on percentages eg: Pasifika cohort.

Next steps in 2018:-

- Work with Mathematics facilitator to develop detailed, planned approach to improving mathematics teaching across the school.
- School wide review of planning, classroom delivery, assessment practice and achievement to target Professional Learning Development to further develop teacher capacity.
- Actively participate in the second year of Ministry of Education 'Mathematics Support Teachers' (MST) initiative to support leadership in mathematics to increase teaching/student achievement across the school.
- Apply for further PLD in mathematics to assist 'on-site' training/modelling for teaching mathematics.
- Continue to identify and target individual students currently achieving below/at risk of falling below the expected curriculum level, to differentiate programmes to accelerate their mathematics progress.
- Further develop school processes for identifying reasons for underachievement to address these issues quickly – especially for Māori, Pasifika and students with special learning needs.
- Focus on differentiating teaching/workshops and heterogeneous group teaching in classes to meet student needs
- Provide individual/small group intervention programmes to accelerate progress eg: MST teacher working with identified individuals/target groups of students throughout the school.
- Plan and implement deliberate teaching actions to address learning areas that need acceleration.
- Continue to use the strategies that helped make sound progress in the past to support students to accelerate progress to be achieving at/above the expected curriculum level by the end of 2018.

- Use successful 'Change Team' model/processes to improve the impact and effectiveness of the 'Supplementary Inquiry Team' on improving mathematics teaching and learning.
- Closely monitor/track identified target students' progress and programmes; also discuss at staff/hub meetings as 'Puzzles of Practice' for colleague support to adapt programmes and improve student engagement.
- Continue to explore culturally responsive approaches for teaching mathematics and engaging with families/whānau to do this.
- Further develop practice to engage in face to face conversations with parents/ whānau about learning goals, how to help at home and the importance of being at school each day eg: WEAP (Whānau Education Action Plan) training for all teachers.
- Find out further information from students/whānau to understand interests, culture, ways to engage with student and whānau.
- Continue to review teacher strengths/capabilities and provide Professional Learning Development to further teachers' abilities to use successful teaching approaches, also assessing/assessments against the mathematics curriculum levels, to promote consistency of practice.
- Refine school wide moderation processes in Mathematics using PACT tool to assist assessment and moderate teacher judgements.
- Continue to promote moderation within school and explore further how this may occur across local schools.
- Apply for learning assistance as required eg: RTLB, Assistive Technology for individual student needs.
- Further refine processes for teachers to reflect on and improve practice eg: 'Teaching as Inquiry', TLCs, Puzzles of Practice, Classroom observations/feedback.

Writing

This is the seventh year the school has assessed writing progress against National Standards. December 2017 writing OTJ's are compared with writing OTJ's in December 2014, 2015 and 2016 to gauge achievement progress over time. Although multiple sources of data were used to place students on the scale (Well Below, Below, At, Above), reliability of the data presented in this report is influenced by teacher interpretation of the standards, and some significant changes to the cohort groups with students moving into and out of the school. Through further professional development, practise and moderation teachers at Bellevue School (and nation-wide) continued to deepen their professional understanding/capability in assessments against the standards; also in reviewing and refining the moderation processes for OTJs to more closely align teachers' judgments.

At the end of 2016 a cohort of Māori students, Boys and Year 5 students were identified as achieving below the expected level of progress in writing. A group of 25 boys and five Maori students (three boys are also in the Māori student cohort) were identified as target groups for accelerated learning in 2017, along with the group of eight Year 5 students as Year 6 students in 2017. Results for all students are recorded in a table below, with the target group's progress included in the second table

Target 2 - Writing

To continue to increase the percentage of students who are achieving at or above the National Standard in writing by December 2017, especially in the identified target groups of Boys, Māori and Year six students.

Outcomes/What Happened

Whole School Writing Data (comparing writing OTJ's for 2017, 2016, 2015 and 2014)

Writing	Well Below				Below				At				Above			
	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017	2014	2015	2016	2017
December	14 5.6%	12 4.6%	6 2.1%	10 3%	60 24.1%	80 30.5%	54 19.1%	59 20%	153 61.4%	159 60.7%	89 66.8%	199 68%	22 8.8%	11 4.2%	34 12%	27 9%
All students	14 5.6%	12 4.6%	6 2.1%	10 3%	60 24.1%	80 30.5%	54 19.1%	59 20%	153 61.4%	159 60.7%	89 66.8%	199 68%	22 8.8%	11 4.2%	34 12%	27 9%
Boys	11 8.2%	9 6.7%	6 4.4%	8 5%	42 31.3%	50 37%	34 24.8%	40 27%	74 55.2%	70 51.9%	87 63.5%	94 63%	7 5.2%	6 4.4%	10 7.3%	7 5%
Girls	3 2.6%	3 2.4%	0	2 1%	18 15.7%	30 23.6%	20 13.7%	19 13%	79 68.7%	89 70.1%	102 69.9%	105 72%	15 13.0%	5 3.9%	24 16.4%	20 14%
Maori	3 9.4%	2 6.1%	2 4.9%	0	12 37.5%	14 42.4%	8 19.5%	10 24%	16 50%	16 48.5%	29 70.7%	30 73%	1 3.1%	1 3%	2 4.9%	1 3%
Pasifika	0	1 10%	0	1 6%	3 25.0%	2 20%	2 15.4%	3 18%	8 66.7%	7 70%	10 76.9%	11 65%	1 8.3%	0	1 7.7%	2 12%

- The 'All Students' cohort achieving at/above standard increased 13.9% in 2016 and was similar rate of achievement in 2017. Comparing achievement trends show 70.2% (2014), 64.9% (2015) and 78.8% (2016) and 77% in 2017.
- Boys achievement judged to be at/above the standard increased in 2016 ie: 60.4% (2014) - 56.3 (2015) - 70.8% (2016) and 68% in 2017. Although the number of boys judged to be achieving at the standard increased in 2017, there was a slight decrease in percentage and in number of boys achieving above the standard.
- Girls achievement of 86% is a similar percentage judged to be achieving at/above the standard as in 2016. An increase of 4.3% more girls achieving at/above standard over the four year period ie: 81.7% (2014) - 74% (2015) - 86.3 (2016) and 86% in 2017. Fewer girls were judged to be achieving above standard in 2017.
- The Māori cohort achieving at/above the standard has increased significantly over the four year period from 53.1% (2014) - 51.5% (2015) – 75.6% (2016) – 76% (2017). No Māori students were judged to be well below the standard in 2017.

- The Pasifika cohort achievement rate increased significantly by 15% 2015 – 2016 but was lower this year ie:- 75% (2014) – 70% (2015) and 84.6% (2016) and 78% in 2017. However there was an increase in the number of students achieving above the standard.

Target Groups Writing Data

The target is to move at least 19/25 (76%) Boys currently at Bellevue School who are achieving below the writing standard to be achieving at/above the standard by December 2017, to move 3/5 (or 66%) Māori students and to move 6/8 (or 75%) Year 6 currently at Bellevue School who are achieving below the writing standard to achieve at or above the standard by December 2017.

Number of students + target % to achieve at/above by December from 204 Annual Plan	Above	At	Below	Well Below	Total at/above by Dec	% at/above by Dec	% - Below in Dec	Performance Outcomes
Boys: at least 76% (ie:19/25) of identified Boys to achieve the standard by December		16	9			64%	36%	Not Achieved – needed to move three more students to reach the target goal of 76% achieving at/above standard for this target group,
Total Boys: at least 80% achieving at or above the standard by December	7	94	40	8	101	68%	32%	Not Achieved – need to move another 19 students to reach the goal of 80% all boys achieving at or above.
Māori: 3/5 Māori (ie 66%) to achieve at/above standard by December		3	1		4	75%	25%	Achieved – one student moved during the year so the target group reduced to 4 ie: three students meant the target goal of 75% achieving at/above standard was met for this target group,
Total Maori: at least 80% achieving at or above the standard by December	1	30	10		31	75%	25%	Not Achieved – needed another two students to have achieved at/above to meet the 80% target for all Maori students.
Year 6: 6/8 (ie: 75%) to achieve at/above the standard by December		4	3		4	57%	43%	Not Achieved – one student moved during the year so the target group reduced to 7 ie: four students meant the target goal of 75% achieving at/above standard was not met for this target group, A further two students needed to move to reach the target.
Total Year 6: at least 75% achieving at or above the standard by December	6	31	8	2	37	79%	21%	Achieved.

Although progress was made in student attitude, engagement and towards the OTJ targets some students did not make sufficient progress to reach the expected standard so the targets were not met for the Boys cohort, the full Māori cohort or the identified small group of Year 6 students. Writing achievement continues as a target for 2018.

Actions to Achieve Targets/What was done:-

- Continued 'Change Team' and Student Achievement Function (SAF) assistance to focus on improving writing for individual and identified groups of students.
- 'Raising Achievement Plan' for target groups of Boys, Māori and Year 6 students, meeting fortnightly to review progress and plan next steps.
- Clarified expected levels students should be working at for making OTJ's and moderating writing at Bellevue School from SAF/MOE guidelines.
- Used guidelines for expected level of achievement with students ie: curriculum level expectations and teacher developed learning expectation documents.
- Students were encouraged to take an increasing part in/ownership of setting their learning goals and activities by looking at expected levels of achievement for their level of schooling, and next steps from where they were currently working.
- Regularly clarified learning intentions and success criteria with students.
- Every teacher focused on school priority for planning/implementing daily programmes to improve writing, reviewing/adapting these for individual student's needs.

- Teachers identified small groups of target students, then consciously planned and used teaching strategies that research identified as being more effective to involve students in their learning.
- Teachers used PACT tool to assist making OTJ's and moderate writing across school.
- Target students daily programmes were differentiated to respond to learning needs/interests and focused on accelerated learning.
- Teachers met with target students and their parents each term to assess progress and plan next steps together.
- Students' continued to collect ideas for writing eg: Seed Books/Ideas Notebooks and were given greater choice about what they wrote about.
- Writing was 'purpose-driven' (rather than 'genre-based' writing) and increased student choices in writing eg: topic, genre, books/on devices.
- Continued focus on individualised learning experiences eg: Reading Recovery programme, literacy groups.
- Targeted additional adult assistance eg: teacher aide, small group teaching for target students.
- Data used to plan programmes, review progress, adapt programmes and make OTJ's against the writing standards.
- Identified target students were closely monitored for progress/programme adaptation in syndicate meetings/'Puzzles of Practice' for colleague support to improve engagement/progress.
- Continued student use of ICT and e-learning to actively engage them in class activities and learning programmes that related to writing. Students had choice to write using e-learning devices (chrome books, ipads) to promote engagement in learning.
- Literacy Professional Learning Development provided to improve teacher capability for delivery of writing programmes, understanding of writing standards and moderation of OTJ's against the writing standards school-wide eg: change team professional development in using PACT this year.
- Provided consistent encouragement/opportunities for students to regularly self-assess/reflect on their writing, talk about their progress towards their goals and share their progress with others – especially working to involve parents/caregivers/whānau.
- Meetings with parents used to engage/inform parents, encourage assistance/support for their child/ren's writing eg: 'Meet the Teacher', Three Way Conferences, Target Student Whānau Meetings.

Reasons for Variance/Why it happened:-

- Strong school wide focus and priority on daily teaching and writing practice in 2017 – emphasized 'every day every child writing', appraisal goals related to writing, TLC's and professional development focus on writing.
- Teachers noticed/reported an increase of engagement and willingness to write (even for some of their more reluctant students).
- Reduction in teacher variability in making OTJ's as used clarified expected levels that students should be working at and PACT tool when making/moderating writing. Worked in teams to moderate using these levels for students at risk/difficult to determine level.
- Used PACT tool to assist moderating OTJ for confirming OTJ's/confirming some students writing throughout the year and for December assessment. Continued using a number of samples from student writing books rather than a 'one-off' sample in 'test' conditions.
- Used Bellevue Writing Progressions (poutama) to guide students, teachers and parents/ whānau for expected progress in writing.
- From 2014 Ongoing Resource Student data is included in writing data, and number of ORS students increased/changed during the year.
- Student transitions ie: movement in and out of the school.
- Smaller numbers of students in some target groups had a larger effect on the percentages eg: Māori.

Next steps in 2018: -

- Continue the school focus on writing improvement/acceleration and ensuring daily writing in each class.
- Continue Change Team support for improvement/accelerated writing achievement school wide and for identified students. Review then implement new Raising Achievement Plan.
- School wide use of Bellevue Writing Poutama and PACT tool to guide expectations, set goals and check progress, and plan deliberate teaching actions.
- Target groups for accelerated writing progress ie: individuals identified from 2017 data and areas of need identified for students.
- Continue teachers' active involvement in identifying/choosing target students for accelerated progress in their hubs using data from 2017 and their early assessments.
- Manageable target groups so each teacher is clearly focused on lifting student writing achievement for these students eg: no more than five.

- All staff proactive to improve attendance, participation, involvement and engagement for identified students and their whānau/families.
- Monitor progress/ adapt programmes using school Tracking and Monitoring Sheet and PACT to check/discuss progress each month.
- Further develop school processes for identifying reasons for underachievement to address issues quickly – especially boys and Māori students.
- Apply for learning assistance as required eg: RTLB, RTLit, and Assistive Technology.
- Further develop use of tools to assist making more objective/accurate writing judgements about student achievement levels eg: whole staff continue to use writing PACT tool to assist making judgements and expect regular use for assessing target student progress
- Trial and adapt methods to find out further information from students/whānau to understand interests, culture, ways to engage with student and whānau eg: Whānau Strengthening meetings.
- Use WEAP training to assist further engagement in face to face conversations with parents/ whānau about writing goals and expectations, how to help at home, the importance of being at school each day and regularly practising writing skills.
- Regularly clarify and review learning intentions and success criteria with students – daily check in with target group students.
- Further professional development and practise to make and moderate teacher judgements of achievement in teams to promote consistency of practice.
- Seek/investigate further moderation of assessment judgement across local schools.