

4. Analysis of Variance 2015 (Te tātari i ngā rerekētanga)

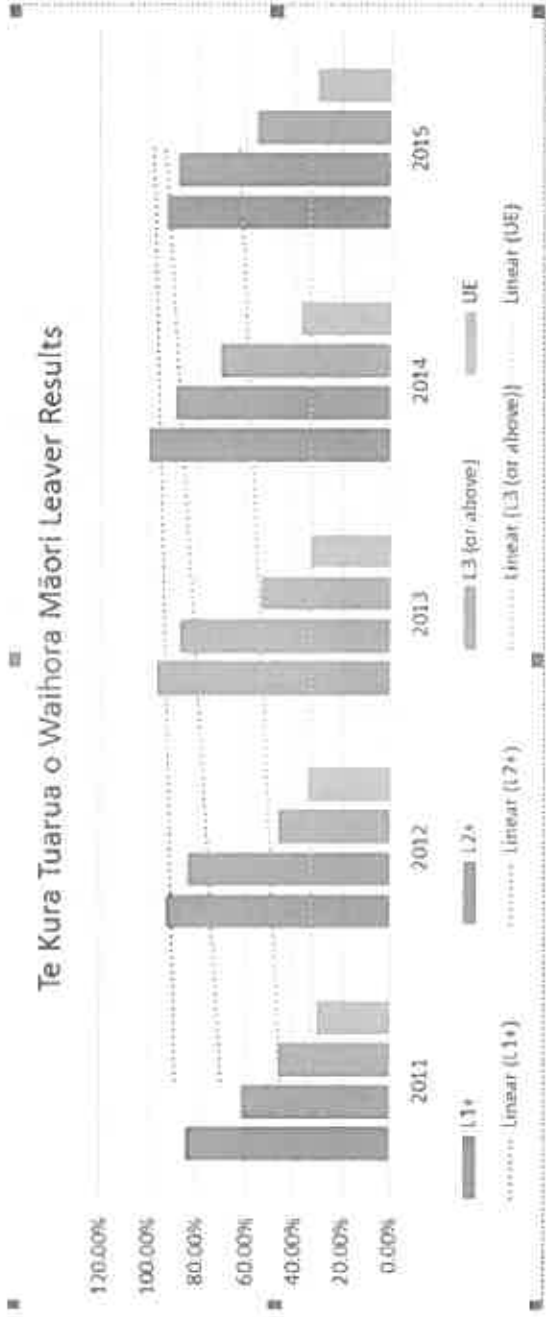
Student Achievement Target 1

- The highest qualifications of Māori school leavers will continue to improve.

	2009		2010		2011		2012		2013		2014		2015	
	Whole Cohort	Māori	Whole Cohort	Māori	Whole Cohort	Māori	Whole Cohort	Māori	Whole Cohort	Māori	Whole Cohort	Māori	Whole Cohort	Māori
# Leavers	292	30	307	39	298	26	298	43	326	30	314	27	300	40
No Formal Achiev.	-1	3%(1)	-2	0%	-1	0%	-1	0%	0	0	2	0	2	0
L1+	93%	93%	93%	90%	93.3%	84.6%	95.6%	93.0%	96.9%	97.0%	97.4%	100%	96.6%	92.5%
L2+	88%	87%	78%	69%	76.8%	61.5%	87.2%	83.7%	89.0%	87.0%	92.3%	88.8%	88.6%	87.5%
L3 (or above)	51%	40%	44%	28%	56%	46.2%	52.0%	46.5%	57.1%	53.8%	61.4%	70.4%	53.0%	55.0%
UE	48%	33%	34%	13%	44%	30.8%	42.0%	34.9%	44.8%	33.0%	46.4%	37.0%	38.0%	30.0%

Analysis:

- It is good to see that no Māori students left school without NCEA Level 1.
- The results for level 1-3 NCEA are very similar to the whole cohort with the only area of concern being the percentage gaining UE. As a school we are focusing on what is happening with regard to UE for our Māori students and our boys in particular.

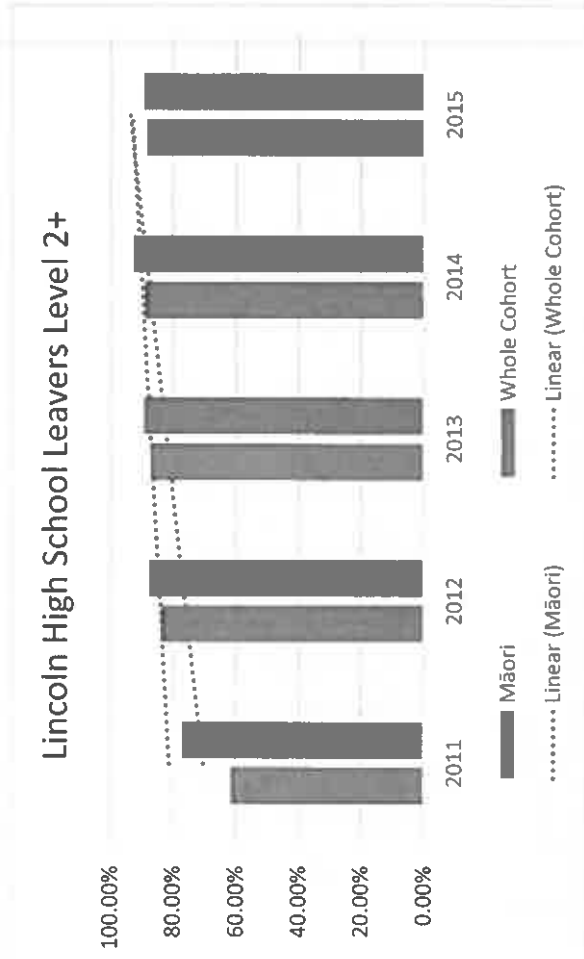


Māori School leavers with at least NCEA level 2 or equivalent

Priority outcome one in the Ministry of Education statement of intent is; improving education outcomes for Māori learners.

One of the goals of Ka Hikitia ~ Accelerating Success 2013-2017 states:

- Of the Māori students who turn 18 in 2017, 85% will achieve at least NCEA Level 2 or an equivalent qualification.
- Lincoln High School Māori students leaving school with at least Level 2 is at 87.5% which is above the national long term goal.

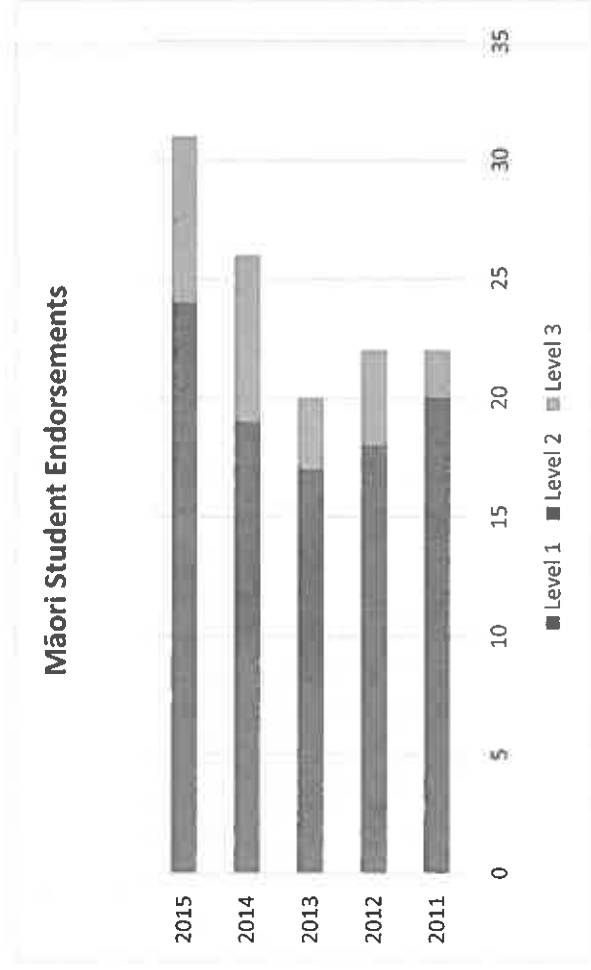


Māori Student Endorsements

	2011	2012	2013	2014	2015
Level 1	14	14	8	10	15
Level 2	6	4	9	9	9
Level 3	2	4	3	7	7

We feel it is important to have high expectations for our Māori students so have included data on our endorsements for Māori.

The endorsement rates for Level 2 and 3 have remained about the same as 2014. We did have more students in Level 1 in 2015 and note that there are more endorsements.



Nga ākongā Māori

Te Kura Tuarua o Waihora

2016 Background Information

Year Level	School Cohort	Number of Māori Students
9	331	35 (10.6%)
10	386	37 (9.6%)
11	342	32 (9.4%)
12	378	44 (11.6%)
13	247	19 (7.7%)
Total:	1684	167 (9.9%)

School Leaver Information

During 2015, we had a significant number of students leave during the year (40). Only 22 of these 40 students left with Level 3 or higher. With the return of Blair Johnstone in his role working with all Māori students, closer monitoring and mentoring will take place to ensure that more support is provided and that the school is aware when these students are looking at leaving. This will ensure that our Māori students are not leaving without the appropriate conversation with Blair Johnstone and to ensure that a “strong pathway” – Te Arārirā is taking place. Another layer of support that will assist Blair Johnstone in his role is that of the LINC teacher who will work in a one on one mentoring capacity with all students.

In looking at 2016, there are currently 19 Year 13 and 44 Year 12 Māori students so close consideration and monitoring will take place with these students to guide them through NCEA Level 2 and 3.

Analysis

Although, the trend lines show a continued improvement for Māori student leaver results, there was a drop in all levels in 2015 for Māori students and there is still a slight gap between non-Māori students at all levels. A significant area of concern is students leaving with University Entrance with only 12 of the 40 Māori student leavers having achieved this and this is the lowest % recorded in the last five years.

Evaluation and Where to from here

We will continue to monitor the progress of our Māori school leavers and mentor where necessary. An important step of this will be to look at University Entrance and student’s eligibility for this.

Student Achievement Target 2

- The average increase in asTTle Reading and Mathematics measures for Year 10 Māori students and boys (from the end of Year 9 2014 to the end of Year 10 2015) will be at least two sub levels across the 3 testing areas within each of Reading and Mathematics.

Note: asTTle data categories (B= Basic, P= Proficient and A = Advanced)

Algebra breakdown for all students:

asTTle showed that:

- Surface and deep processing were at similar levels to each other in terms of mean scores. This is an improvement from last year's Year 10 cohort where "deep" (relational & extended abstract) processing lagged behind surface level (procedural) processing in terms of value added. Our aim is to maximise deep level processing (relational and extended abstract thinking).

Our Year 10 end of year Exam showed:

- Algebraic manipulation skills were not yet at a level we would like for our Year 10 students, given the level they need to get to for the MCAT when in Year 11. However these have improved compared to the Year 10 cohort of 2014 (we raised the criteria for "achieved" in this year's exam so this improvement was not borne out in official grades).

asTTle data for Maori students only (number of students for Y9 testing=29, number in Y10=25):

	Overall score	Surface	Deep	Number sense	Algebra
End of Y9 mean:	4A	4A	4A	4A	4A
Nov 2013	1557	1559	1573	1565	1552
End of Y10 mean:	5B	5B	5B	5B	5B
Nov 2014	1585	1586	1590	1588	1584
Effect size of increase.	0.430	0.396	0.287	0.294	0.510

- Any difference of over 7.5 points in asTTle testing is statistically significant among a group of this size (suggests a real difference in the performance of the Maori and Pasifika students in this cohort). The variability taken into account here relates to test-re-test reliability**

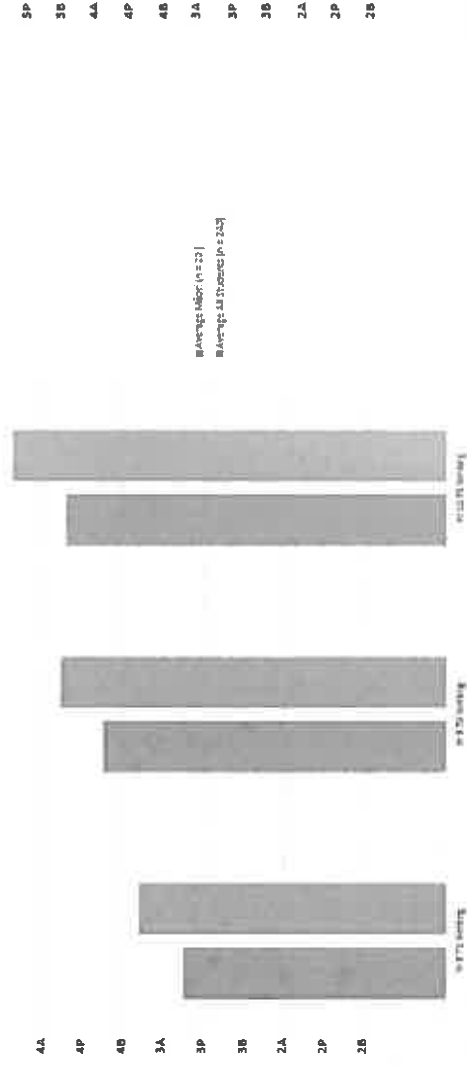
Overall the achievement and progress of our Māori students is not as positive as for non- Māori students. On average our cohort increased by 2 sub levels from Although there are only 25 students who identify as being Maori in this group, the difference in asTTle scores and effect sizes of improvement compared to non-Maori are large and consistent enough to be meaningful.

Results suggest that this groups' achievement against the curriculum showed these students were working at a Basic level 5 level at the end of year 10.

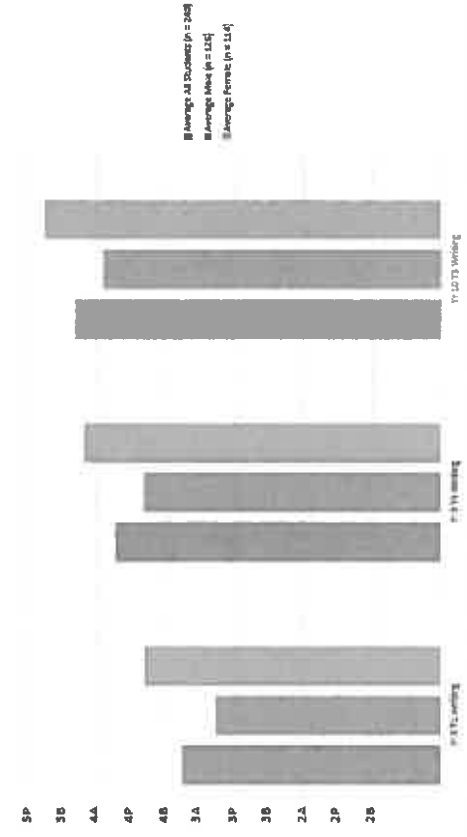
Among Māori there was poorer mean achievement than for non-Māori across all categories.

Average asTTle results for analysis of Māori and boys results at the end of Year 10.

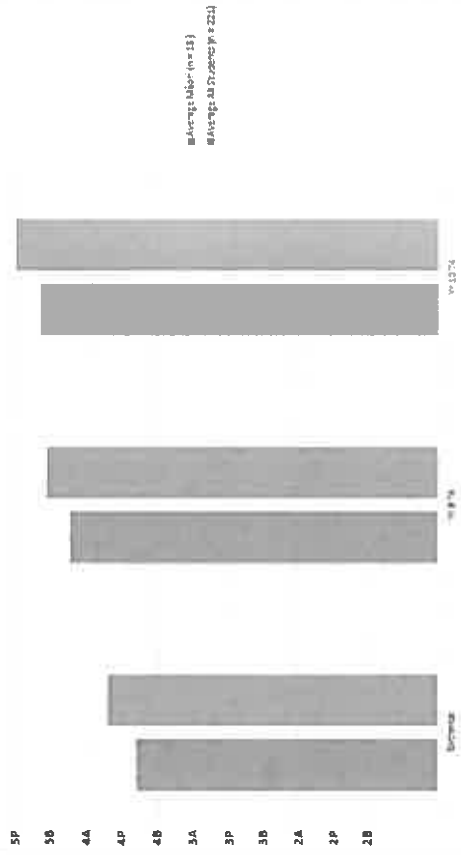
Writing (Curriculum Level) for Year 9 2014 Students



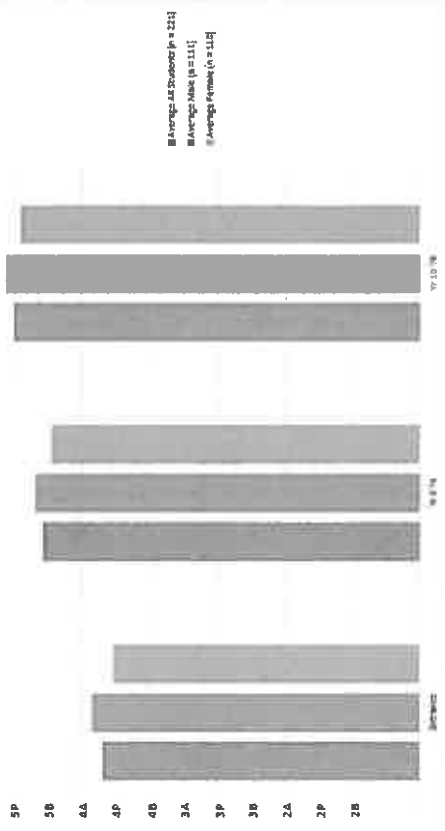
Writing (Curriculum Level) for Year 9 2014 Students



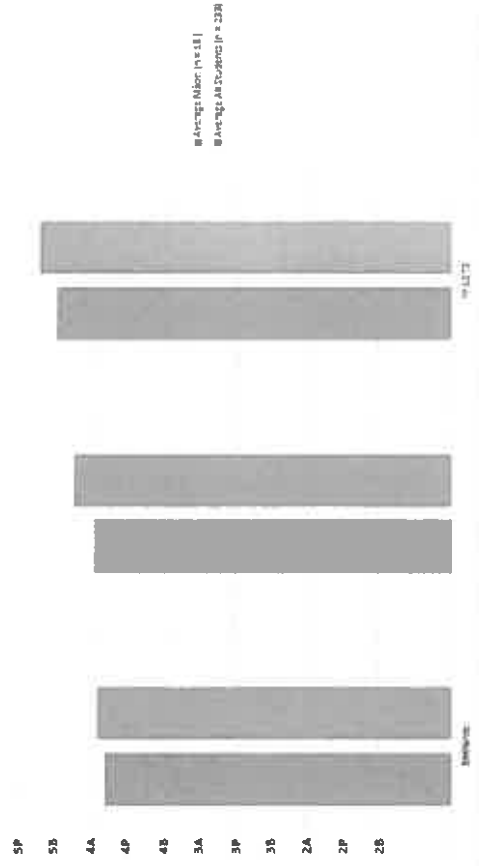
Mathematics (Curriculum Levels) for Year 9 2014 Students



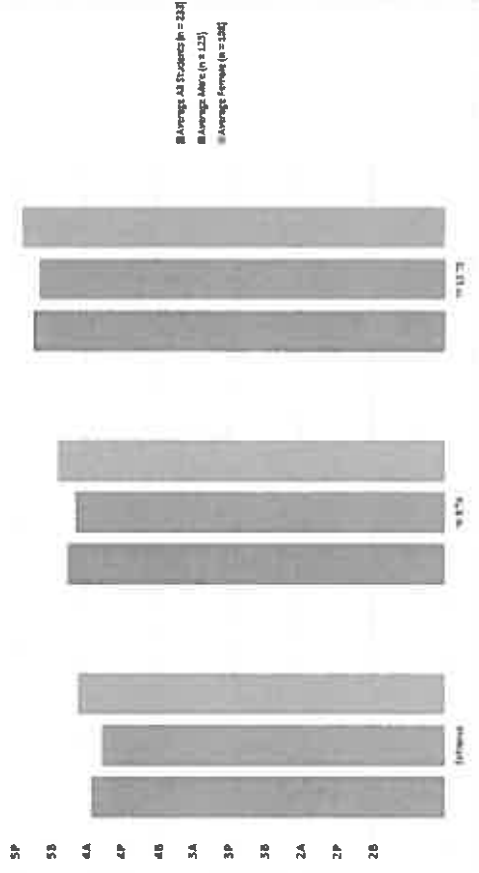
Mathematics (Curriculum Levels) for Year 9 2014 Students



Reading (Curriculum Levels) for Year 9 2014 Students



Reading (Curriculum Levels) for Year 9 2014 Students



Analysis: Mathematics by GENDER

In terms of overall performance there is no overall gender difference observed in Mathematics.

However when broken down into categories we see notable gender differences in:

- Deep processing: Greater value added among girls than boys.
 - Algebra: Greater value added among boys than girls.
- It is unclear why these differences exist; there were no such differences found in last year's Year 10 cohort.

Boys' asTTle data:

		Overall score	Surface	Deep	Number sense	Algebra
End of Y9 mean:	Curriculum level	5B	5B	5B	5P	5B
Nov 2013	Score	1585	1583	1594	1596	1576
End of Y10 mean:	Curriculum level	5P	5P	5P	5P	5P
Nov 2014	Score	1614	1611	1615	1619	1614
Effect size of increase.		0.445	0.410	0.354	0.312	0.606

Girls' asTTle data:

		Overall score	Surface	Deep	Number sense	Algebra
End of Y9 mean:	Curriculum level	5B	5B	4A	5B	5B
Nov 2013	Score	1579	1576	1580	1585	1575
End of Y10 mean:	Curriculum level	5P	5P	5P	5P	5P
Nov 2014	Score	1608	1611	1612	1617	1605
Effect size of increase.		0.445	0.513	0.539	0.433	0.479

Summary

- Reading: There were similar increases in sublevels for both boys and girls. On average boys moved one sublevel from 4A to 5B while the girls moved from 5B to 5P.
- Mathematics: Both the girls and the boys moved on average one sublevel from 5B to 5A.
- Writing: Both the boys and the girls improved on average two sublevels. The boys (4B to 4A) still lagged behind the girls (4A to 5P). This was encouraging as it was a specific goal for the English department in 2015.

Evaluation and where to from here:

- We are looking to triangulate the data for numeracy and literacy across a range of testing to deepen the validation of the data.
- We will implement a measure of curriculum levels against levels of SOLO to measure improvement from the end of Year 9 to the end of year 10

Student Achievement Target 3

- The highest qualifications of male school leavers will continue to improve

	2010	2011	2012	2013	2014	2015
Level 1	91	92	94	96	97	95
Level 2	75	71	88	85	90	84
Level 3	36	46	48	51	54	41

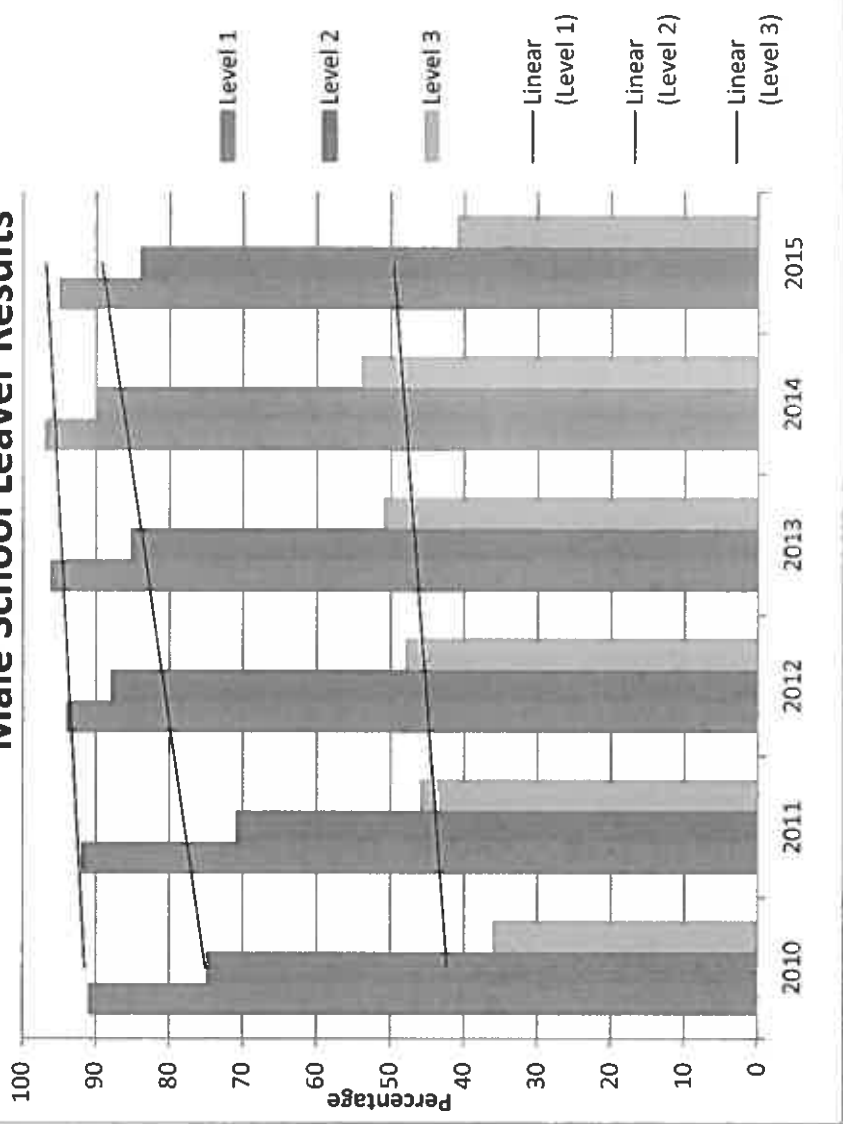
(all data in percentages)

Highest qualification of School leavers

(source: Kamar data- interim 2015)

	2010			2011			2012			2013			2014			2015		
	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys	Whole Cohort	Boys		
# Leavers	307	138	298	157	298	151	326	156	314	156	300	152						
No Formal Achievement	(2)	(1)	(1)	0	(1)	(1)	0	0	2	0	2	1						
L1+	93%	91%	93.30%	92.40%	95.60%	94.00%	96.90%	96.20%	97.40%	96.90%	96.60%	95.30%						
L2+	78%	75%	76.80%	71.30%	87.20%	88.10%	89.00%	85.30%	92.30%	90.10%	88.60%	83.50%						
L3 (or above)	44%	36%	56.00%	46.50%	52.00%	47.70%	57.10%	51.30%	61.40%	54.00%	53.00%	40.70%						
UE	34%	27%	44.00%	35.00%	42.30%	35.10%	44.80%	34.60%	46.40%	38.00%	38.00%	28.90%						

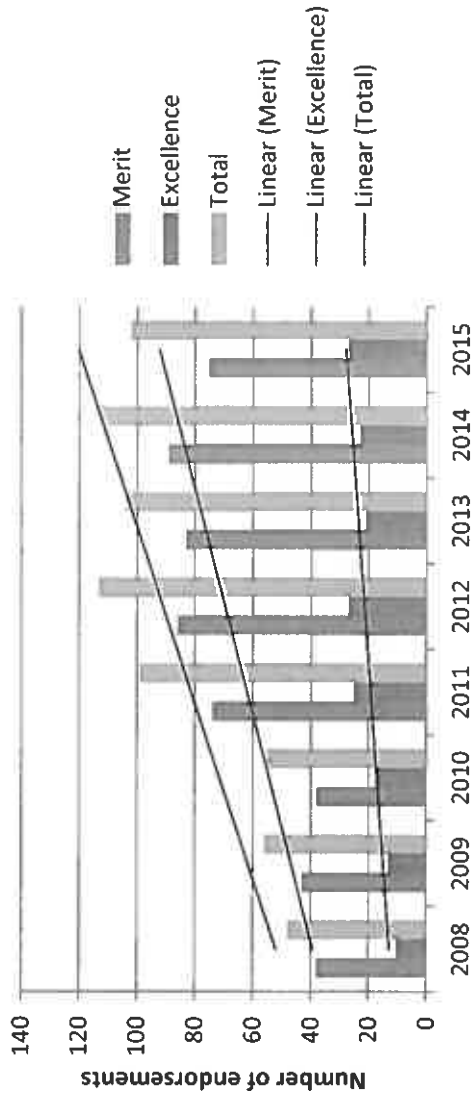
Male School Leaver Results



Endorsement rates

	2008	2009	2010	2011	2012	2013	2014	2015
Merit	38	43	38	74	86	83	89	75
Excellence	10	13	17	25	27	21	23	27
Total	48	56	55	99	113	104	112	102

Male Endorsements



Analysis

- Our level 1 leaver results have continued a very strong trend for all students but our boys have slipped by just over 1% compared with the girls rate of success at level 1. This has not been the case in previous years.
- Our level 2 male leaver results (83.5%) have dropped to below the desired goal of 85% for the first time since 2011. In 2014 we used the MOE Achievement Tracking Summary tool and will consider its use in the closer monitoring of our boys in 2016. The assistant principal who led this in 2014 was on study leave in 2015.
- We are disappointed with our level 3 and UE results for boys in 2015 and will be working with our tutors, Heads of Levels and newly created Linc teachers in 2016 to make improvements in this area.

Evaluation and where to from here:

With a change in the timetable structure and a clear focus on more personal mentoring for students through our Linc Class in 2016, we believe we can more closely monitor progress for our students. The teaching staff have reviewed their NCEA data in all learning areas and across the school there is a heightened awareness of the need to increase boys' achievement. This focus will continue with all department reports. One group of teachers has come forward to develop a learning team which will focus on boys' achievement through the use of IT in 2016.

Student Achievement Target 4

- The number of students leaving school with UE will increase to 75% (i.e. those who are eligible for UE – not the NZQA measure of those eligible for NCEA Level 3

	2014	2014	2015
Total students surveyed:	171	(74% of cohort)	(72% of cohort)
# aiming for UE	130	76%	80%
# maybe aiming for UE	15	9%	1%
# not aiming for UE	26	15%	18%

Total number of students in cohort as at 22/10/14	231	203
based on survey %, total aiming for UE	176	163
based on survey %, total maybe aiming for UE	20	3
based on survey %, total not aiming for UE	35	37

actual number gaining UE	145	117
Total of those either aiming or maybe aiming to gain UE	196	166

% of those either aiming or maybe aiming to gain UE who did gain UE	74.0%	71%
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Analysis

- We are still in the early days of analysing these trends. The target was set in 2014 knowing the standards for achieving UE were higher than in earlier years, (students requiring 3 x 14 credits in three domains) which meant a decrease in achievement from this external force.
- We felt it was important to focus on the success for students who were aiming to get UE rather than the whole cohort while at the same time ensuring that all students were aware of what UE would allow them to do.
- The 71% success gained in 2015 is below the desired goal of 75% but during 2015 we reviewed this goal and steps have been put in place to provide more support for 2016.
- We found that some students were not focused on achieving the goals we had put in place – poor attendance or poor application to learning and assessments have been barriers to achieving this goal.

Evaluation and where to from here

- In 2016 a Graduate Diploma has been put in place for year 13 students. The diploma requires a 90% attendance rate (includes justified attendance) and a 70% pass rate in all internal NCEA credits assessed for students to gain the Graduate Diploma. The diploma will be awarded at the graduation ceremony at the end of the year.
- The new Linc classes – we have classes of approx. 18 students from Year 12 and 13 meeting with their Linc teacher for 45 minutes a week. During this class, monitoring of attendance and achievement along with goal-setting will be a focus. We believe this will enable the students to be more aware and focused on what is needed to achieve UE if this is what they are aiming for.
- We want to unpack the choice of course for our Year 13 students and determine why they are, in some cases, choosing courses which exclude themselves from eligibility for UE.