RANGIĀTEA
WESTERN SPRINGS COLLEGE
EXEMPLAR

The Rangiātea project consists of case studies and exemplars from five secondary schools, each of them on a journey towards realising Māori student potential. The case studies look at the strategies used by the school leadership team and report on the key factors that contributed to lifting Māori student achievement. The exemplars step through how a particular programme has been used successfully in each school.

The work was funded by the Ministry of Education as part of the He Kākano project.

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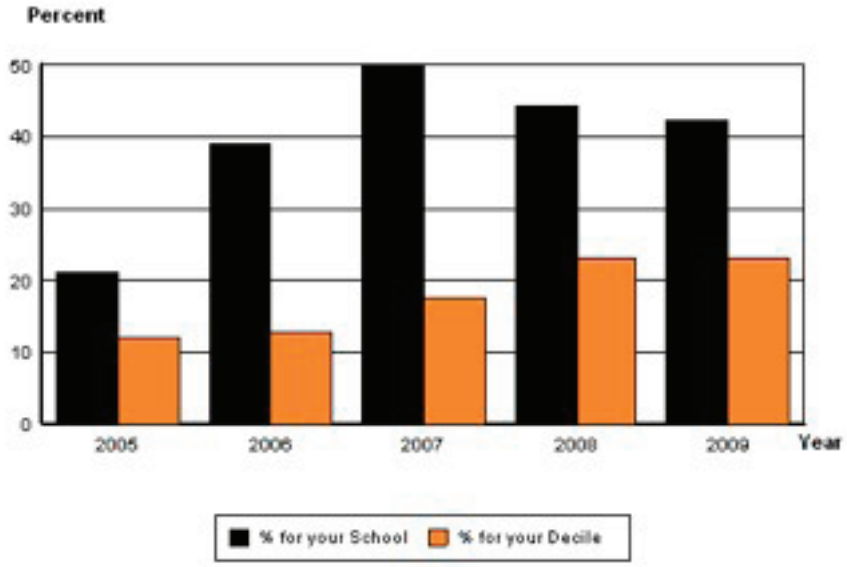
(AS APPLIED TO STUDENTS AND TEACHERS)

The motivation and drive to build a passion and love of maths in students

1. Western Springs College has a track record of high levels of Māori student achievement. For the past five years, its Māori students' achievement results have been well ahead of the national average for schools in its decile group in many respects.
2. Firstly, looking generally at the Māori school leavers with Year 13 qualifications, it is clear that Māori students are achieving success ahead of other schools.

FIGURE 1 Māori school leavers with Year 13 qualifications at Western Springs College



Source: Ministry of Education School SMART website data

3. At Year 12, Māori are also achieving high levels of success, and in most years have similar achievement to other ethnic groups within the school.

FIGURE 2 School leavers with Year 12 qualification or higher at Western Springs College

Source: Ministry of Education School SMART website data

4. The school also publishes the disaggregated results of all Māori students to show by gender the Rumaki and mainstream Māori results.

TABLE 1 Level 2 NCEA pass rates at Western Springs College

	2007			2008			2009		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Rumaki	100%	71%	87%	83%	67%	78%	100%	86%	89%
Mainstream Māori	69%	100%	79%	89%	60%	79%	75%	93%	78%
All Māori	81%	85%	82%	87%	63%	79%	70%	94%	81%
All students	80%	85%	82%	90%	92%	91%	91%	96%	93%

Source: Principal's Reports 2007–2009

5. Furthermore, few Māori students leave the school with less than a Year 12 qualification.

TABLE 2 Māori school leavers with less than Year 12 qualification

Māori school leavers with less than Year 12 qualification	Your decile	% for your school	% for your decile	% difference
2004	7	31.6	50.0	-18.4
2005	7	21.1	55.1	-34.0
2006	7	26.1	48.2	-22.1
2007	7	10.0	39.8	-29.8
2008	8	11.1	26.8	-15.7
2009	8	18.2	28.6	-10.4

Source: Ministry of Education School SMART website data

6. To achieve these results the school closely monitors all students. Table 3 shows the level of detail the maths department goes to in monitoring the achievement of one class. Once the analysis is completed, the staff explore how they might improve results the following year.

TABLE 3 Level of detail for the maths department

Detail of analysis of one NCEA Level 2 course—analysis by external and internal standards

Analysis of marks

External standards:

Pass rate	WSC 2008	WSC 2009	National 2009
2.1	98%	93%	65%
2.2	97%	95%	84%
2.3	95%	94%	72%
2.4	90%	82%	69%
2.7	97%	86%	76%
2.9	90%	83%	84%

Merit	WSC 2008	WSC 2009	National 2009
2.1	50%	54%	32%
2.2	56%	48%	22%
2.3	63%	41%	22%
2.4	42%	44%	28%
2.7	47%	45%	30%
2.9	33%	34%	28%

Excellent	WSC 2008	WSC 2009	National 2009
2.1	29%	10%	6%
2.2	6%	5%	6%
2.3	3%	16%	12%
2.4	2%	9%	28%
2.7	7%	19%	30%
2.9	13%	17%	28%

External standards:

Pass rate	Ach. St /U. St 2008	Ach. St /U. St 2009	National 2009
2.4	69%	25%	69%
2.7	83%	77%	76%
2.9	79%	66%	84%

Merit	Ach. St /U. St 2008	Ach. St /U. St 2009	National 2009
2.4	15%	7%	28%
2.7	23%	23%	30%
2.9	10%	13%	28%

Excellent	Ach. St /U. St 2008	Ach. St /U. St 2009	National 2009
2.4	0%	0%	28%
2.7	0%	0%	30%
2.9	0%	2%	28%

Internal standards:

	Ach. St /U. St 2008	Ach. St /U. St 2009	National 2009
AS 2.8 – Pass rate Merit rate Excellent rate	100% 27% 56%	98% 37% 42%	84% 28% 16%

Internal standards:

	Ach. St /U. St 2008	Ach. St /U. St 2009
AS 2.5 – Pass rate Merit rate Excellent rate	98% 23% 7%	92% 16% 4%
AS 2.6 – Pass rate Merit rate Excellent rate	98% 9% 6%	76% 12% 10%
US 5244 – Pass rate	96%	94%
US 5245 – Pass rate	95%	84%
US 5246 – Pass rate	87%	61%
US 5253 – Pass rate	88%	69%
US 5248 – Pass rate	80%	87%

Detail of analysis of one NCEA Level 2 class—by gender and ethnicity

Gender

% Assessment passed by	US	Int AS	Ext AS
Males	81%	92%	83%
Females	88%	95%	78%

Ethnicity

% Assessments passed by	US	Int AS	Ext AS
NZ Euro	90%	92%	85%
Māori	86%	86%	73%
PI	98%	97%	100%
Asian	99%	91%	86%
Other	90%	67%	100%

7. This exemplar explores the way the school supports Māori students to progress in maths, to better understand how the school is achieving these high levels of success.

Success in maths

8. In maths, the Western Springs College National Certificate of Educational Achievement (NCEA) Level 1 numeracy pass rate has been at 100 percent for a number of years, reflecting the commitment within the school's maths department to realise the potential of all students. How does the school achieve these high levels of success for their Māori students, particularly in maths?
9. Traditionally, some students perceived maths as an uninspiring subject. The school saw the challenge as being to inject a passion into maths teaching and inspire those students:

   We know that maths and maths teachers are thought of as boring, and maths teachers can be known to be a bit dry; not exciting. We try to change that. [Maths department team member]
10. All the staff within the maths department are committed to building a love of maths in students and providing a learning environment where students have a self-belief that they can do maths:

    We really want to grow excitement for maths in our students. [Maths department team member]
11. The leadership team and teachers within the maths department work systematically to ensure that every student receives the best teaching and support to succeed. Teaching staff respond to the diverse learning needs of their students and aim to have a broad toolkit of approaches to support student learning.
12. There is a strong belief within the maths department that students who experience success, no matter how small, derive the motivation and drive for further achievement. Teaching staff strongly believe in the ability and potential of their Māori students to achieve academic success:

    They [Māori students] should have every chance to succeed. They all have skills in maths that need to be encouraged. [Maths department team member]

Continuous development

13. The ongoing high achievement of students in maths requires continual commitment from all departmental staff—including the head of department, assistant head of department and teachers. All staff are dedicated to maintaining high standards of teaching. They constantly assess their teaching and finetune their delivery to improve their approach to students.

14. Departmental staff champion maths. They are passionate, energetic and strongly believe all students are able to succeed, with a particular focus on Māori. This has led to positive changes, which are currently unique to maths, including a banding approach (discussed later in the exemplar).
15. The maths department acknowledges that a myriad of different teaching approaches are required to help students reach high levels of achievement. The maths department works towards developing policy specific to the delivery of maths, designing appropriate course content to meet student needs and setting realistic target goals for both classrooms and individual students.
16. The maths department also benefits from vast institutional knowledge and expertise within the wider school leadership team. The senior management team has worked together since 2001. Within the senior management team there are staff with extensive expertise in teaching maths and a deep knowledge of maths as a subject, which enables them to take a pedagogical leadership role.
17. The maths department has high expectations of teaching staff to deliver quality teaching and also of students to be receptive to learning. Formative and summative assessments of students' learning results are used to finetune the maths course delivery throughout the school year:

    There was a change from testing at the end and having one result, to looking closer to say, 'If that's where the kid is, how do we get them to merit; excellence?' [Maths department team member]
18. Teachers participate in ongoing professional development including mentoring, peer observations in class and feedback meetings. They also obtain support and guidance from a variety of staff within the school such as specialist teachers, and Māori mainstream and Rumaki teachers.
19. The principal is guided by recommendations of the senior leadership team and maths department teaching staff. In turn, the principal supports the maths department's resource requirements, whilst allowing them the autonomy to deliver maths in a way that suits both teachers and students:

    Any staff; all the teachers are potential leaders … The thing I liked about my past principals was the quality of letting you run with an idea, something you were passionate about; I try to bring that into my role as school leader. [Principal]
20. To effect positive educational change there is a need for good school–home partnerships. The maths department tries to have three-way dialogue with whānau, student and teaching staff. The aim is to keep whānau informed about their child's progress and respond to any issues in a timely manner:

    They do not put their head in the sand and pretend things aren't happening. They deal with things as they happen and do what they can. [Whānau]

The maths scheme

21. The maths department has developed a maths programme that aligns with the Western Springs College Charter, National Education Goals and the New Zealand Curriculum. This programme is clearly communicated in the maths scheme and is used by all staff as a guide and focus to advance maths achievement in all students:

    It provides a strong philosophical basis for work, how to address the Treaty of Waitangi, school mission and strategic goals and the National Education Goals … It's a very detailed document; an authentic document that gives teaching staff an account of how to apply it in their own teaching. [Principal]
22. The maths scheme document has the following sections: aims and philosophies; departmental systems and policies; departmental planning and review; assessment; pedagogies and inclusion strategies; and unit plans. There is also clear communication of teaching staff responsibilities and areas of responsibility, as outlined in Table 4 below.

TABLE 4 Maths scheme—areas of responsibility

Professional knowledge	• Show knowledge and understanding of the relevant national curriculum statements, use an appropriate range of teaching techniques, show an awareness of the place of assessment in improving student learning, record assessment outcomes according to school policy and department guidelines, read literature in your professional area and discuss issues with colleagues, regularly attend staff and department meetings
Professional development	• Participate in the school's performance system in accordance with school policy, identify own professional development needs and communicate these to the appraiser within the appraisal cycle, attend professional development programmes and activities, contribute to department professional development activities, develop an understanding of the Treaty of Waitangi and its principles
Teaching techniques	• Develop effective teaching strategies with regard to programme planning and assessment design, teaching techniques, use of technologies, evaluation and reflection on teaching techniques and strategies
Student management and motivation of students	• Maintain a comprehensive record of each student's attendance, set and maintain appropriate standards for student behaviour in line with the school's Code of Conduct, work to establish clear classroom routines, apply strategies to ensure students are on a task in a positive, supportive atmosphere, maintain student progress • Communicate challenging but attainable expectations for all students, demonstrate evidence of working towards providing a variety of relevant activities to suit different learning styles and levels, give praise for student achievement
Te reo me ona tikanga	• Pronounce and use Māori names and words correctly, where appropriate, develop Māori language appropriate to own learning area, incorporate elements of te reo and tikanga Māori into classroom programmes with some guidance, participate in Māori cultural events and develop understanding of local kawa and tikanga where relevant
Effective communication /support for colleagues/ contribute to school-wide activities	• Communicate effectively with students, whānau, report on student progress, share information with colleagues • Build professional relationships, contribute where appropriate to professional development activities • Become familiar with school policies and programmes

Source: Maths Department Scheme of Work (2010)

23. The maths scheme is a living document, which continuously evolves. It is updated each year, then reviewed and critiqued by the principal before it is issued to all staff members.

Aligning practice to school-wide philosophies and strategies, and national education goals

24. The maths leadership team has implemented strategies within the department that are well thought through and are aligned with wider school strategy and education values. This in turn has reinforced and strengthened the school-wide approaches and the culture of the school.

25. The maths department's approach is underpinned by Western Springs College's mission statement "*All students inspired by a love of learning, are challenged to discover and develop their unique personal strengths so that they are well equipped to contribute to the building of a just society.*" Teachers within the department strive to provide inspirational teaching—infusing and nurturing a love of learning and an appreciation of maths.

26. All maths staff make an effort to fulfil the college's vision statement, which sets academic achievement as a top priority. Teachers aim to deliver a balanced education, addressing the needs of the whole person in a caring and supportive climate.

27. Western Springs College fosters individuality, critical thinking and creativity along with a sense of community, respect for and service to others. Maths teachers create an environment where students are able to make mistakes, ask questions and participate in class discussions. Diversity is valued and promoted as a core value within the department. An individual's culture and experiences are allowed for and encouraged in students' problem-solving strategies and shared learning opportunities.

28. The Treaty of Waitangi guides the department in its dealings with whānau and Māori students. The Maths Department Scheme of Work (2010) document has specific reference to this in a Treaty Statement. Key aspects of this policy are illustrated in Table 5.

TABLE 5 Aspects of Treaty of Waitangi policy related to maths

- Māori student achievement initiatives will be adequately resourced and promoted.
- Māori curriculum planning and delivery will include providing knowledge and understanding of Māori world views and the principles of the Treaty of Waitangi.
- The staff professional programme will (without placing undue expectations on Rumaki staff) include coverage of Treaty educational issues, the implications for implementing national education and administration guidelines and Māori educational strategies such as Ka Hikitia.
- Understanding and respect for tikanga Māori will be promoted to students, staff, parents and trustees of Western Springs College.

29. Staff work to ensure the Treaty of Waitangi policy is implemented. Staff also closely monitor Māori student achievement and make full use of school-wide initiatives and support structures to support achievement. These initiatives and supports include the Māori mainstream liaison programme, the homework centre and the learning centre that all sustain and encourage Māori student achievement.

30. There is careful consideration of each Year 11 Rumaki student as they transition to mainstream maths in Years 12 and 13 and additional support is provided where required. A partnership approach operates between students and teachers, who work closely with the Rumaki maths teacher to ensure equitable learning programmes.

31. The emphasis on the Treaty of Waitangi and the school's obligations to Māori students and whānau link to professional development needs for teachers. It is particularly important that teachers foster relationships and connect with Māori students to support their achievement. The use of Māori terminology, phrases and context are also encouraged within the classroom.

32. The Maths Department Scheme of Work (2010) outlines Western Springs College's strategic goals and demonstrates how the department links these goals to teaching, communication with whānau and student achievement.

TABLE 6 The way maths goals link to school-wide strategic goals

Western Springs College's strategic goals	Way maths department applies goals
To attain the highest academic, cultural and sporting standards of student achievement	• Offer a wide range of courses at each level • Carefully monitor and track student achievement, with a particular focus on Māori • Build positive student–teacher relationships • Provide clear, constructive feedback in a timely manner
To provide quality teaching across all curriculum areas	• Ongoing professional development • Create a learning environment where Māori students are not only given the opportunity, but encouraged to engage with and value the principles of meta-cognition • Use assessment data to inform course outlines, content teaching, learning strategies and pace
To develop a safe, inclusive student learning environment	• Provide leadership opportunities for Māori students, both within the classroom and the department as a whole • Actively seek support and input from the Māori student leadership group • Actively track and document the effectiveness of support programmes and interventions for all students including Māori • Maintain high expectations of student behaviour and conduct and ensure conflicting behaviour is followed up in a timely and effective manner
To provide up-to-date educational facilities and services	• Be aware and support school-wide practices • Select relevant unit topics
To strengthen school–home and school–community partnerships	• Timely, informative, clear, proactive information to whānau • School–home communication via handouts, letters, email, phone calls and report interviews • Monitor whānau concerns and address these • Publicise success of Māori students within the local community

Source: Maths Department Scheme of Work (2010)

33. The departmental strategy is clearly linked with National Education Goals (NEGs), as shown in Table 7.

TABLE 7 The way maths goals link to National Education Goals

National Education Goals	Western Springs maths department
NEG 1: The highest standards of achievement through programmes that enable all students to realise their full potential as individuals and to develop the values needed to become full members of New Zealand's society	• Provide courses to meet student needs as informed by assessment, diagnostic testing and classroom observation • Provide support and a positive learning environment • Intervene in a timely and appropriate manner when student not progressing as expected • Model and expect excellence • Encourage innovation, creativity and a sincere passion for the subject • Report to whānau on student achievement
NEG 2: Equality of educational opportunity for all New Zealanders, by identifying and removing barriers to achievement	• Professional development for all staff to ensure cultural sensitivity • Clear understanding of learning needs of each individual student • Wide range of teaching and learning strategies in class • Ensure classroom materials available to all students • Actively teach numeracy skills
NEG 3: Development of the knowledge, understanding and skills needed by New Zealanders to compete successfully in the modern, ever-changing world	• Basic numeracy skills taught and monitored • Key competencies within every classroom • Range of technologies used to process and present information • Connection made between learning and everyday life
NEG 6: Excellence achieved through the establishment of clear learning objectives, monitoring student performance against those objectives and programmes to meet individual need	• All programmes have clear objectives so students can match progress with evidence • New Zealand curriculum values implemented • Timely and appropriate interventions with students • Continuous assessment to inform levels of student mastery and refine teaching
NEG 7: Success in their learning for those with special needs by ensuring that they are identified and receive appropriate support	• Courses tailored to student needs • Professional development of staff • Work closely with school-wide supports such as special needs, learning centre • Learning environment where all students feel comfortable
NEG 8: Access for students to a nationally and internationally recognised qualification system to encourage a high level of participation in post-school education	• Junior courses in line with senior school expectations to develop a clear understanding of NCEA • Junior courses reflect assessment and moderation processes in senior school • Senior courses assessed against NZQA awards • Senior courses tailored to student needs • Promotion of lifelong learning
NEG 9: Increased participation and success by Māori through the advancement of Māori education initiatives, including education in Te Reo Māori, consistent with the Treaty of Waitangi	• Specific focus on monitoring Māori student achievement • Fully utilise school-wide systems and structures in place such as Māori mainstream liaison, homework centre • Work closely with Rumaki staff • Carefully consider the future pathway of each Māori student • Encourage the use of te reo Māori • Provide support for students who miss lessons due to cultural practices or performances
NEG 10: Respect for the diverse ethnic and cultural heritage of New Zealand people, with acknowledgment of the unique place of Māori, and New Zealand's role in the Pacific and as a member of the international community of nations	• Professional development opportunities • Learning environment where cultural diversity is respected and encouraged

Source: Maths Department Scheme of Work (2010)

34. The vision of the New Zealand Curriculum is "that young people will be confident, connected, actively involved and lifelong learners and schools will uphold values of excellence, innovation, inquiry, diversity, equity, community and participation, integrity and respect". The maths department maintains the same kaupapa, working diligently and tirelessly to get to know each of its Māori students and form strong, positive relationships.

Maths course design

35. The Western Springs College maths department implements a unique banding system. Students are placed in bands according to achievement levels. This system is only implemented for maths.
36. Initially, the principal was cautious about implementing a banding system, as his past experience of banding or streaming was unsatisfactory. In the past he found that students were labelled prematurely based on limited and questionable evidence and that effectively students then remained in, or were locked into, a particular stream. The senior management team was also not in favour of banding. The approach challenged school conventions, but the principal closely examined the maths department's motivation for recommending banding as an appropriate response to raising student achievement in maths. The head of department provided a sound rationale and convinced the senior management team to take a chance on this approach.
37. The introduction of banding enabled the maths department to develop and use its own model to cater to students' different needs. The principal is impressed with the continuous assessment concept where the course is adjusted to meet student needs over time. This enables students to work at levels where they can achieve. With banding, students acquire the vital numeracy skills at each level. As a result, students experience success, which in turn leads to student retention:

    Students are able to retain a pathway to Year 13 stats or calculus. There is an extremely high percentage of Year 12 and Year 13 students opting in to maths courses. Over 90 percent of Māori students take maths through to Year 13. [Principal]

38. Students know the benefits of banding and understand how the system supports their success in maths. Banding builds student confidence and supports students to acquire the necessary numeracy skills at any time:

    The teachers don't keep you in one band: if you are struggling they will move you down so you can get the basics and then help to build back up. [Student]

39. Each course is designed to align with the students' level of achievement. Hui with students occur at the beginning of each year and as a starting point to build effective student–teacher relationships. At Year 11, an individual student review of their Years 9 to 10 mathematics results takes place, and discussion is based on assessment and diagnostic testing throughout that period.
40. This ongoing data collection also assists the maths department to develop appropriate courses to deliver subject content. For example, if a student is testing at stanine 1 to 3, teachers are able to identify the extra work required. Students testing in the lower stanines are placed in smaller classes and have more time to complete fewer topics:

    This is so students will experience success and achievement, which breeds ongoing success and achievement. [Maths department team member]

41. Within a class there are certain expectations, both of the whole class and individuals. Teachers are well aware of these expectations and apply different teaching strategies to support students' learning. Teachers communicate a strong belief that students can achieve and are gratified when they manage to empower students to be the best they can be:

    [Maths] teachers push you to be the best but they are really nice with it and really passionate about it. [Student]

    They [teachers] have expectations of kids but it is a carrot rather than a stick approach. [Whānau]

Staff interaction

42. The principal feels the maths department has led the way in making learning in maths relevant to Māori students and that this potentially provides a model for school-wide practices:

    It's about having a finger on the pulse; giving people the time to talk about the kids. The maths department makes the time to sit down and reflect amongst the staff … This of course is about teaching as inquiry, and the regular meetings give a context for that … It's empowering teachers to take charge of their own teaching that works well. [Principal]

43. Regular departmental meetings are held weekly on Tuesday and Thursday mornings. During the meeting, teachers in the maths department discuss administrative issues, moderation, course progression, teaching and learning strategies, as well as their own professional development needs.

44. Meetings between the head of department and the assistant head of department are prescheduled throughout the term. The head of department and the assistant head of department also have regular informal communications, with daily briefings when required.

45. Regular quality assurance meetings are scheduled to discuss formal observations, planning, record keeping, teaching strategies and student work and their frequency is on an as-needed basis. At these meetings teachers are required to provide evidence relating to the topics taught. Performance appraisals occur on a yearly basis for all staff. In addition, the head of department and assistant head of department undertake regular classroom visits for beginning teachers and those new to the school and provide both informal and formal written feedback on teachers' performance.

How to monitor progress—students and teachers

46. The Year 13 academic director held the position of maths head of department for several years. She maintains that there are three key components to advancing Māori student achievement: the right approach, the right entry level and the right pace. These all play a crucial part in effective delivery of maths courses. Furthermore, teaching is most effective when it is underpinned by a strong positive relationship between the teacher and student.

Goal setting

47. Generally, Māori student data are aligned to school-wide achievement goals and data; however, individual goal setting is informed by the results of student assessment and teacher reviews.

48. Target goals for each class are developed during target-setting meetings. It is expected that most of the class will achieve within a certain performance range. Those who underachieve are supported via face-to-face hui with staff, and whānau are contacted to discuss options:

    You get the sense they really know the kids, not just the ones doing well, and they know exactly where they're at. [Whānau]

49. Goals for each student are initially set at 14 credits. The goals are then adjusted to reflect the needs and ability of each student, to ensure they achieve success. In each topic area, students learn basic skills and are then advanced to a higher level. As the banding is fluid, students are not trapped in a band based on an initial assessment but move between bands to reflect their learning progress.

50. Students are engaged in informal discussions about their goals throughout the year with teachers, the head of department and the assistant head of department. A consensus is developed between teacher and student about the level of progress or achievement possible. The student is also clear about the tasks they need to complete to reach their goals. Initially, goals may be about participation rather than achievement in maths—indeed, for some students, success in the class initially is being able to come to class with completed homework and the right equipment:

    We are focused on them experiencing small victories and trying to get staff to build on those—success is how you hook kids in. [Academic director]

51. It is important for each student to have a maths pathway, so they and their whānau can clearly see the end goal as they work through the various courses and units. Teachers break down the overall target into manageable stages, which again gives the students opportunities to experience success in maths:

    It is about breaking the overall target down into bite-size pieces, saying, 'Bring me this unit, then this unit' so the workload looks manageable. [Academic director]

Individualised approach

52. An individualised approach enables teachers to build positive relationships and take the time to get to know students. All students' progress in maths is assessed regularly and data are tracked against expected progress. The maths team members comment that data only supply a certain amount of information. Close teacher–student relationships provide context to the data and help provide a clearer understanding of student needs.
53. When analysing Māori student data, teachers consider the number of Māori in the class. At times, they comprise a minority of two to three students who are not succeeding and this can affect classroom results significantly. In these situations, the individualised approach means that these students' results are examined individually.
54. Each Māori student has an individual folder held by the academic director. A summary sheet for each student provides a running record of student progress. This sheet is used as a talking point when senior students meet face to face with the academic director.
55. Teaching staff undertake regular formative assessment to determine how students are progressing along their maths pathway. Time is invested into students prior to assessment, and teaching staff acknowledge their responsibility to ensure their students are ready for assessments.
56. Summative assessment takes place once teaching of the topic is complete. The process could take the form of a written assessment or project work. Each standard is aligned with a key competency as a focus.

Assessment and tracking

57. Teaching staff undertake assessment through a range of formal and informal strategies including quizzes, verbal discussions, written assessments, model building, portfolios and projects.
58. Assessments reflect the nature of the course and the needs of the students. Students are informed of written assessments at least a week in advance. In the event of the assessment being worth credits, students receive at least two weeks' notification. Revision opportunities are provided, and students are given a practice assessment for those internal assessments worth credits. Students have a good understanding of requirements for success and are clear about the assessment criteria.
59. Staff adjust their teaching programmes based on the outcome of the revision, practice assessment and assessment. All assessments are followed by clear feedback and in-depth discussion of the criteria. There is an opportunity to correct work with the student to maximise student learning:

    Senior students are kept on track. They are called in to speak personally with the head of department … It is a very personal approach. [Whānau]

    Teachers communicate a strong belief that students can achieve. It's impossible for students to spend time with them and not come out empowered. [Principal]

60. Students are given the opportunity to reflect on their assessment in order to clarify what they need to improve. They reflect on both the subject content and strategies for study and exam techniques:

    Things are explained well, and I am shown where I have gone wrong and given the chance to resubmit. [Student]

61. Students evaluate every teacher during the year. Student feedback is forwarded to the head of department and feeds in to the staff appraisal process. In addition, every two years, school-wide quality-of-service delivery questionnaires are sent to whānau, students and staff.

Tracking

62. All students' progress is tracked from Year 9 on, and teachers develop courses and approaches based on student needs. The maths department has set targets that students of different ability can be expected to achieve by certain stages. For example, if, at Year 10, a student is in an accelerated class, that student would be expected to take calculus at Year 13. If, through the regular tracking, the student is not moving along their maths pathway as expected, support is given to accelerate their learning.

63. Underpinning this approach is a desire to build intrinsic motivation for learning and achieving. So even in situations where a student is passing their course, the maths department distinguishes what is driving the student to succeed:

    He is passing now and doing well because I want him to but the ultimate aim is where students are doing it for themselves. [Academic director]

64. The maths department does not take their responsibilities lightly. A Year 13 student achieving calculus standards is not the definitive goal. The fundamental goal of the maths department is to inculcate in all students a positive approach to learning that is lifelong and driven by the student themselves.

Results analysis meetings with head of department and teaching staff

65. Results analysis meetings with teachers occur regularly throughout the year, with a particular focus on Māori students. Meetings are held at the end of Terms 1 to 3, with extra time made available for a fourth meeting if required.

66. Results analysis meetings follow a clear format, where teachers indicate those students who did not achieve to the expected standards and the reasons for this. The maths leadership team members leading these discussions with the teachers ask specific questions such as, "Who are the Māori students? What progress did the teacher expect and are the student's grades reflecting that expectation?" If the student is not experiencing success at the expected rate, the team discusses and plans a way to rectify the situation.

67. The senior management team finds this approach is an effective way to build each student's maths pathway. As the teacher participates in the review, the process enables teachers to take ownership, review their own teaching practice and consider changes they might make to improve student achievement:

    It can be a powerful thing to say out loud that this student is not having the results because my teaching could be improved … In a nonblaming way, it is focused on the kids and about getting the very best from them. [Academic director]

68. Discussions are recorded in results analysis folders and referred to during subsequent meetings where next steps and evidence of change are documented. Teachers keep individual student results as well and use these to inform the results analysis discussions:

    We think of students individually, and there is a huge sense of accountability for teachers when developing individual student pathways. [Maths department team member]

69. Results analysis discussions can lead into professional development opportunities for teachers. For example, extra support is provided at times for teachers from overseas who struggle to understand the difference between Māori and other students. In that instance, Rumaki teacher expertise has been called upon.

70. Regular reporting occurs on a variety of levels within the maths department. All staff participate in the annual departmental reporting which focuses on curriculum delivery, achievement and departmental management. Learning barriers are identified within each year level and this is narrowed down to particular students or groups of students who have not achieved as well as expected. Recurring issues are identified as areas that need to be finetuned in plans for following years.

71. School–home reporting builds an effective partnership between school, student and whānau. Whānau support to monitor homework completion, ensure students come to school with the correct equipment and check their students' progress on projects is an important adjunct to successful teaching and learning. The maths team regularly communicates with whānau in a variety of ways including letters, emails, phone calls, reports and through whānau hui. Whānau feel that the school communicates effectively through a variety of means:

    Generally, two face-to-face meetings per year, written reports, email and telephone … If something is not happening, they will get in touch with me so I don't feel out of the loop at all. [Whānau]

Supports in place

72. Working with students in an individual way, with regular assessment and tracking, is only part of the equation to advancing Māori student achievement. To encourage and promote achievement in students, maths staff also call on school-wide supports and systems. These supports include the Māori mainstream and Rumaki teachers, homework centre, holiday workshops and learning and health centres.

73. All year levels have a staff member assigned to support student progress and ensure that a maths pathway is developed for each individual. A matrix approach is used to ensure all students are closely tracked and supported. The head of department has a focus on maths across all year levels and in particular works closely with the Years 9 and 10 students—also linking with the assistant head of department who works with Year 11 students. The Years 12 and 13 academic directors have a focus across all subjects when talking with students and their whānau, and these academic directors also work closely with the maths head of department to ensure student success in maths.

Impact of continuous individualised monitoring

74. Student feedback is positive and discussion with students is inspiring, as they talk with excitement of maths achievements. There is a feeling amongst the senior students that anything they put their minds to is possible. They are consciously involved in their learning—weighing up their future educational opportunities.

75. Students speak highly of teachers and appreciate the ways in which teachers communicate with them about maths:

    There seems to be less teaching in maths. It's more like a conversation and they ask questions all the time, checking that you have understood. [Student]

    They showed an interest in my achievements and gave me really good feedback on how I was doing and what I need to do to improve. [Student]

76. Students and whānau value the Māori mainstream maths teachers and the homework centre because these resources support them. Some students participate in the centre as teachers and this has been an effective way for seniors to support juniors and place students in leadership roles.

77. Whānau and students are extremely satisfied with the level of care and attention teachers take to get to know individual students. All maths staff have a great deal of knowledge about their students and what they are capable of achieving:

    There is constant assessment. When you start at the beginning of the year, they ask previous teachers about work ethic, there are mini tests … They know what we can do and ask questions if we aren't where we should be. [Student]

78. Whānau are also informed through the Rumaki and empowered to engage with the maths department to seek the best possible results for their students. With the support of the Ministry of Education regional office, hui were held which were in line with Ka Hikitia (Māori education strategy) which recommends that "parents and whānau must be actively involved in decision-making and their children's learning in all education settings" (Ministry of Education, 2009, p. 28):[1]

Many of our whānau in the past have been informed well enough and made to feel totally empowered enough to go to the maths head of department and ensure that their tamariki be enrolled in particular standards and to know exactly what their tamariki have had to do to achieve those standards. [Tumuaki]

79. The learning environment is challenging and supportive where students experience success through teacher support and realistic expectations:

    They don't judge you; they just know what you're capable of and will help you to achieve. [Student]

    The expectations are high but realistic. [Student]

    One-on-one assistance in a stress-free, relaxed environment and not having to rush a unit. [Student]

80. Whānau are grateful for the many opportunities given to students to succeed and frequently enquire about holiday workshops.

81. All maths staff encourage students to take responsibility to be the very best they can be. Students maintain that relationships between teachers and students are based on respect and trust, which they appreciate:

    [Teachers] value your opinion, they are not one-dimensional; they don't always think they are right. This builds self-belief and confidence. [Teachers have] helped me to branch out, develop my personality, to feel like an individual, and I'm supported in that. [Student]

Lessons from the field—what works for Māori students

82. The Western Springs College maths department offers some important lessons in how to work effectively for Māori students. The department has learned that:

    - Relationships matter; it is important to develop connections and build student self-belief by finding out what is important to students:

      [The teacher] spends time talking about her family, I feel connected to her. [Student]

      We want to do well for the teachers because they help us heaps. [Student]

    - It is important to develop a clear and manageable maths pathway:

      When I was struggling she sat me down and built confidence in me so I could do well … I moved to a bottom class to focus on basics so I was actually doing two classes but it worked for me. [Student]

    - Face-to-face contact with whānau and students is vital.
    - Revisiting goals regularly helps keep students focused.
    - Involving students in their own learning instils an intrinsic motivation to learn:

      One-to-one talking, supporting them to believe in themselves and supporting them to reach their goals. This means in the first term you spend much of classroom time building relationships, getting to know them. [Senior management team member]

    - Develop a supportive learning environment:

      They help me if I fail. [Student]

      Debriefings where the teacher talks to you one on one. [Student]

      Supply materials and things that you need. [Student]

      They give us a lot of revision material to work on before the tests and exams. They go through the test in depth when you don't achieve. [Student]

Critical components in Māori student achievement

83. There are a number of components judged to be critical in supporting Māori student achievement. These are:

- Collaboration within maths department, from the leadership team, academic director, head of department, assistant head of department through to the teaching staff.
- Provision of a range of professional development opportunities that link to the maths course:

  We know that we are accountable and we can get support if we need help. [Maths department team member]
- Uniting the complementary skills among the maths staff and encouraging cohesive teamwork, and the ability to work through issues systematically and find mutually acceptable solutions.
- A positive attitude towards Māori student achievement, along with a genuine belief in student ability and desire to see them achieve:

  Treat you like a student but they genuinely want to help you out and want you to do your best. [Student]

  They encourage me to do better than I thought I could … Always telling me I am good at it … If I can't remember things they will give me pointers on how to remember. [Student]
- Teachers with a passion for maths that is catching:

  They are so passionate about maths it just makes you want to do it. [Student]

  Maths has a beauty, you don't have to like it but once you see the beauty you cannot help but be in awe of it. This sharing of passion helps to grow the relationship with students. [Academic director]
- Students know what the expectations are and teachers know exactly where students are at and what they are capable of.
- Realistic expectations, as teachers want students to experience success; not feel frustrated because they are unable to grasp information.
- The maths scheme clearly documents the responsibility to Māori, and this responsibility is embedded throughout the document.
- Tracking and responding to individual needs of Māori students.

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89. The research team included Kataraina Pipi, Kellie Spee and Nan Wehipeihana. At their invitation, Judy Oakden led the team and had overall responsibility for the project.

(Footnote)

1 Ministry of Education. (2009). *Ka Hikitia: Managing for success: The Māori Education Strategy 2008–2012. Updated 2009.* Wellington: Author.

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