



**WHAT WORKS IN INNOVATION IN EDUCATION**

**NEW ZEALAND: EMBEDDING FORMATIVE ASSESSMENT IN MULTIPLE  
INITIATIVES**

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## **BACKGROUND/OVERVIEW**

### **The context**

In the mid-1980s, the New Zealand Labour government undertook a number of radical reforms, moving both public and private sectors toward a model of greater market competition. In the public sector, the government pushed for a reduction in the role of the central government and greater autonomy at the local level, with a focus on achievement of specified outcomes. The 1989 Education Act, framed by a series of task force recommendations, followed this model. The Act provided schools with greater autonomy, creating Boards of Trustees with representatives drawn from the local community; required Boards to create individual school charters setting out school aims and objectives to be achieved within the National Education Guidelines; and gave schools control over funds distributed by the national government. The Education Review Office (ERO) was created as an independent review and audit agency, to focus both on financial management and hold schools accountable for meeting the aims of their charters.

The 1989 Act also replaced the national Department of Education with the national Ministry of Education. The Ministry describes its role, which is indirect, as being to: “give policy advice; implement policy; develop curriculum statements; allocate resources; and, monitor effectiveness.” (<http://www.minedu.govt.nz>) The mission of the Ministry is to “raise achievement and reduce disparity.”

Education reforms have been implemented as the New Zealand population has become increasingly diverse – particularly among school-age children. For example, the Maori students now account for 20 per cent of school enrolments, and the Asian and Pacific Islander populations are also rapidly growing (the Asian population has grown an average of 12 per cent per year through 2001; the Pacific Islander population is projected to almost triple in size from 213,000 in 1996 to 599,000 by 2051). (<http://www.strategicdata.co.nz/articles/demographics.htm>)

### ***Bi-culturalism and education***

Aotearoa - New Zealand is a bi-cultural nation. The Treaty of Waitangi (1840), which established British sovereignty over New Zealand, also created a partnership between the Crown (as represented by the New Zealand Government) and the indigenous Maori population (<http://www.kmike.com/country/nzdemog.htm>). Over the last thirty years, the Maori community has claimed an increasingly important role in shaping the New Zealand policy agenda and approach to bi-culturalism.

In education, the Treaty has served as the legal and philosophical basis for the creation of culturally appropriate programmes “for Maori and by Maori, aimed at improving Maori student outcomes over the last decade”. Maori have argued that efforts to address and redress the dominant-subordinate pattern of relationships that had emerged between European (or Pakeha) and Maori populations is a necessary first step in addressing multi-culturalism in New Zealand. (Bishop & Glynn, 1999).

### ***Addressing disparities in student achievement***

The Ministry of Education notes that “[t]here are significant disparities in achievement evident throughout New Zealand's schools in terms of acquisitions of core literacies, participation in school, attainment of qualifications and progress on to tertiary education...”(<http://www.kmike.com/country/nzdemog.htm>). These disparities were also apparent in the results of the 2001 OECD Programme on International Student Assessment (PISA). As a group, students in New Zealand ranked third, after Finland and Canada on the combined reading literacy scale; third, after Japan and Korea in mean achievement on the mathematical literacy scale; and, among the top 10 OECD countries in scientific literacy. However, New Zealand performed quite poorly on the quality/equality index. Family background factors (i.e., SES levels and ethnicity) accounted for about 20 per cent of in-school variation on test performance in New Zealand.

(OECD, PISA 2000: The New Zealand Context, [http://www.minedu.govt.nz/web/downloadable/dl7524\\_v1\\_pisa-context.doc](http://www.minedu.govt.nz/web/downloadable/dl7524_v1_pisa-context.doc))

In part, the Ministry attempts to address disparities through the decile system. Decile ratings are based on the Targeted Funding for Educational Achievement (TEFA) indicator – which is intended to identify those schools with students from the lowest socioeconomic communities. The 10 subdivisions (deciles 1-10) each include 10 per cent of schools. Deciles 1-3 comprise the “low decile group.” Lower decile schools receive additional funding.

Various Maori learning programmes appear to be having a positive impact as well. According to the Education Review Office, those schools that “...are responding best to ethnic diversity do so through acknowledgement and support of cultural differences.” (Report to the Minister of Education on the compulsory school sector in New Zealand, 2000, p. 20 [http://www.minedu.govt.nz/web/downloadable/dl5931\\_v1/schoolssectorreport-2000-parliamentary.pdf](http://www.minedu.govt.nz/web/downloadable/dl5931_v1/schoolssectorreport-2000-parliamentary.pdf)) However, Maori and Pacific Island student achievement still lags behind achievement of other students.

### ***Formative assessment in New Zealand education***

In New Zealand, formative assessment is not presented as a separate, high-profile national policy initiative, but is embedded in multiple national policies, including guidance in the curriculum framework, and the National Administration Guidelines (NAGS), and examination requirements (the National Certificate of Educational Achievement, or the NCEA), as well as several nationally-sponsored professional development and innovation initiatives. One particular national professional development programme is ‘Assess to Learn’ (formerly known as Assessment for Better Learning), in which facilitators work closely with selected primary and secondary schools to develop their policies and procedures in assessment. Facilitators work intensively with each school for a two to three year period, increasing teacher knowledge of assessment and working with them in classrooms to link together pedagogy and assessment practice. The results of this professional development programme are evident in the two Colleges involved in this study.

The following case studies describe how teachers in two New Zealand schools have responded to national policies and initiatives to promote formative assessment, incorporating new assessment approaches and techniques as a part of their regular teaching practice. This “bottom-up” view of implementation is followed by a more detailed examination of the “top-down” national policies supporting formative assessment.

### **The Case Studies**

#### **Waitakere College**

Waitakere College is located in west Auckland. It is a lower-middle decile four school (with a decile ten school counting at the high-end of the socio-economic scale). Of the 1,450 students enrolled in the school, 45 per cent are of European descent, 22 per cent are Maori, 18 per cent are Pacific Island, and 15 per cent are Asian.

#### ***A bottom-up approach to school reform and innovation***

In 2001, Waitakere College was chosen as one of 17 schools (grouped in ten pilot clusters) to participate in the Ministry-sponsored innovation programme – the Maori Mainstream Programme (MMP), otherwise known as Te Kotahanga in the Maori language. Each of the pilot schools has identified its own needs, and has followed a slightly different model. Waitakere College, for instance, has chosen to run the

MMP as a segregated programme, rather than as a school-wide initiative (which some schools participating in the project are doing).

Waitakere's school leaders are focused on learning and pedagogy. Members of the teaching staff describe him as an instructional leader. The faculty, however, are not always focused on teaching and learning, and it has been difficult to initiate whole-school dialogue (although teachers in the MMP are modelling such behaviour). The school also has a high teacher turn-over rate (approximately twenty per cent of teachers were new to the school in 2002), as well as relatively high student turnover.

Ultimately, Waitakere's leadership would like to see the teaching approach and philosophy of MMP practiced throughout the whole school. Waitakere's principal and deputy principal responsible for professional development and support have each used formative assessment approaches in their own teaching, and see the MMP as being consistent with their own views on teaching and learning; they are particularly interested in developing a strategy to bring the teaching approach and philosophy of MMP to scale throughout the school. With this end in mind, school leaders are developing a mentor model that will help to build the use of best practice (with the MMP model at the centre of best practice) throughout the school.

Waitakere school leaders have also been very involved in national development and piloting of the new National Certificate of Educational Achievement (NCEA). They have thus had important opportunities to influence the new NCEA system and to build ownership in the NCEA.

### ***Built on the principle of Maori self-determination***

The Maori Mainstream Programme is built on principles of Kaupapa Maori - Kaupapa Maori, a critical analysis of the unequal power relations within society. Within this framework, the importance of culture is paramount. The MMP thus encourages teachers to understand their own cultural preconceptions and to create environments where children can safely bring "who they are" into the learning situation.

Maori education scholars Bishop and Glynn note:

"...[T]he introduction of techniques (such as cooperative learning) in isolation from other pedagogical values, beliefs and practices may not be as effective for Maori children's learning as once thought; a simple group-individual dichotomy is not enough – the cultural context is paramount. Such a context helps students 'make sense' of learning interactions by allowing them to bring their own sense-making processes to bear. Teachers need to create safe classroom learning environments in which a range of discourses and learning strategies occur." (Bishop & Glynn, 1999, pp. 157 - 158)

Bishop and Glynn have each played important roles in the development of the MMP nationally including scoping of the project and provision of training, so they have had an important impact on the programme. They have been closely involved in the programme at Waitakere (particularly through research conducted for *Student Voices: Year 9 and 10 research*.)

### ***Teacher buy-in and commitment***

The Maori Mainstream Programme requires a deep personal and professional investment from teachers. The twelve teachers participating in the MMP at Waitakere - some of whom volunteered for the programme, and some of whom were recruited - have various motivations for the investment they have made. Some of these teachers volunteered for the programme because the programme was consistent with their own philosophy and vision for teaching. Others were recruited by school leadership (concerned with

having teacher involvement across departments). These teachers have benefited from the intensive professional development included in the programme.

Teachers in the Maori Mainstream Programme say that they have had to make real changes to their professional practice - which has required "...more head-space" and more energy and input, but has also been rewarding. They are also committed to the idea that teachers *can* make a difference in learning outcomes (as one teacher noted, teachers have abdicated too much responsibility based on the belief that SES levels are the primary determinant of student success). They are willing to make an extra investment to meet a variety of learning needs.

Finally, it is important to mention that the school has freed teachers in the Maori Mainstream Programme from many requirements. They are thus able to devote more of the necessary "head space" to learning to teach in new ways.

### ***Supported by a programme of intensive professional development***

Teachers note that they "...have had some astounding professional development monthly meetings in the Maori Mainstream Programme". Their professional development opportunities have included:

- A four day intensive cultural immersion programme and national MMP teacher meetings.
- Work with a half-time, in-house facilitator.
- Opportunities to share experiences with MMP across departments.

The Ministry of Education sponsored a four-day intensive cultural immersion programme for teachers participating in MMP innovation grants across New Zealand early in the school year, and a three-day programme in the second year of the programme. The Maori Mainstream teachers had a chance to hear feedback from Maori parents and students, and to explore their own cultural and professional attitudes toward teaching as well as culture and power relationships between teachers and students in the classroom. Russell Bishop, an influential Maori education scholar also played a part in the conference (and has had continuing involvement in ongoing professional development) leading a discussion of pedagogy and culture. The Ministry has sponsored five additional conferences on a range of topics for MMP teachers and for principals and deputy principals.

The half-time, on-site facilitator has also been vital to the Maori Mainstream Programme. According to teachers at Waitakere, the facilitator's mix of skills and passion keep the programme going - she is the heart of the programme. The facilitator works with experts on Maori education at the University of Waikato, brings readings and relevant research to teachers involved in the Maori Mainstream Programme, shares practical ideas on how to address challenges in the classroom, observes classes and follows formative assessment practice in her own interactions with the teachers. She has also enlisted the support of Resource Teachers of Learning and Behaviour (RTLBs) in advisory capacities and to consult on delivery and content of professional development and as co-observers in classrooms. The facilitator has also provided professional reading for teachers throughout the school, and has run wider school initiatives - such as a teacher-only-day about the Treaty of Waitangi.

Teachers say that they have benefited from the increased contact, consultation and support they have had with each other. They attend training as a group, and take opportunities to observe each other. They have also shared what they are learning with other teachers in the school who are not participating in the Maori Mainstream Programme. As for other teachers across the school, the majority of professional

development is currently focused on implementation of the NCEA. School leaders tell us that professional development will focus on assessment through Maori Mainstream Programme and NCEA.

### **What's different in classrooms?**

Various informants spoke about MMP as being "...all about relationships between teachers and students." MMP is based on cooperative learning, proverbs and karakia (prayer). Changes within the classrooms reflect this careful attention to relationships.

### ***Deep changes in teacher's perception of their own role in relation to students***

According to Bishop and Glynn, teachers need to develop an understanding of their own "preconceptions, goals, aspirations and cultural preferences" and to "...be prepared to listen to others in such a way that their previous experiences and assumptions do not close them off from the full meaning of the client's student's description of their experience." (Bishop & Glynn, 1999, pp. 61 – 62) As they describe:

...The role of the teacher becomes that of analyzing and drawing upon the learner's current state of knowing, providing an environment and context for learning, coaching, guiding, and facilitating. The goals of curriculum are not a set of disparate behavioural objectives but rather a broader learner empowerment. Instead of simply imparting a body of information, the teacher helps children enrich and understand their personal, lived through experience. Knowledge becomes not something that sits on a shelf but the dynamic interaction of two people. Teachers grounded in a constructivist view have a distinct attitude toward their students - a respect and *understanding of their students' knowledge and ability to learn* (p. 72).'

Teachers in the Maori Mainstream Programme acknowledge that sharing power with students "needs an attitude change" and that while it is nice to get away from the front of the classroom, teaching in a co-operative mode involves more risk-taking and is more difficult. They also note, however, that they spend less time worrying about student discipline and behaviour problems.

Part of teachers' attitude change has also come about as they have seen the positive impact of new teaching methods. As one teacher put it, "...this pedagogy works for all but especially for Maori students. The transmission model of teaching - of filling up heads, teachers being experts providing answers from which students learn does not work."

### ***A focus on helping students to feel safe in the classroom***

Closely related to the changes in power relationships between teachers and students, are efforts to help students feel safe within the classroom. The idea behind the Maori Mainstream Programme is that Maori (and other) students feel safe when they can "...bring what they know and who they are into the learning relationship...where culture counts." According to Bishop and Glynn, "...many Maori children who had been socialised into family, community and peer groups where both group competition and cooperation were valued, where both group achievement and peer solidarity were dominant, where the complementary nature of abstract and concrete thought, physical and social achievements, and religion and culture were emphasised. Socialisation of Maori children emphasised the interdependence of the group and the individual." (Bishop & Glynn, 1999, p. 36)

The Maori Mainstream Programme emphasises group work, on co-construction of knowledge, on peer solidarity (a couple of students told us they felt like they were brothers and sisters growing up together). As one teacher noted, "You are often told as new teachers to be tough and keep it quiet.

Individuals in their seats and to have quiet classrooms, but in this programme you can have noisy engaged learning and it is not a discipline problem." Other teachers reinforced this point of view. Indeed, Waitakere has been known as a strict school - so noisy learning in the MMP classrooms get noticed. But, the MMP teachers say, they have fewer discipline problems than other teachers, who follow the stricter approach to teaching. The cooperative learning opportunities have also helped students' social skills and they are learning to resolve conflict, take different roles, and develop acceptance of others. Students told us that they are much happier in the MMP classes. They find that they relate to their teachers better. But in non-Maori Mainstream Programme classes, they are not as happy.

Maori Mainstream Programme teachers have also placed great emphasis on providing students with positive reinforcement. Formative assessment experts have expressed a variety of views on whether praise of student performance serves to advance student self-esteem and learning. Many note that "task-oriented learning" is ultimately more effective in meeting both goals. Terry Crooks, a New Zealand-based expert on formative assessment (and author of a 1988 seminal review of formative assessment), has been firmly in the "task-oriented" praise camp. Crooks has since revised opinion to note that indeed, praise may be helpful in early stages of implementing formative assessment. Maori Mainstream teachers take the latter view. The MMP teachers at Waitakere told us they are constantly praising students, and that they ignore the negative. If students are not doing well, rather than criticizing, the teacher tries to help the student to figure out how to do things differently. One of the teachers we interviewed noted that she had taken over a class from a teacher who "hated the kids". It took her a term to turn the students around, and she achieved that by constantly being positive, and making them feel that they could achieve. She also used group tests (rather than isolating students). The students in this class are now achieving at 80 per cent in the same test as students in year 10 (one year ahead).

The MMP teachers say that, in general, they have seen students become more and more positive and supportive of each other. In the long run, however, it will be important for teachers to ensure that praise is not used to the point that it might reinforce negative behaviours, and to discover whether students in the MMP respond differently to task-oriented or ego-oriented praise. As students build confidence and grow used to working in classes using formative assessment, teachers may move more toward task-oriented praise and reinforcement.

### ***Active, problem-based and holistic learning***

Maori Mainstream teachers use a number of formative assessment techniques. These include the use of feed-forward (what students will be learning that day, week, term, and why); scaffolding (providing students with as little information as they appear to need, so they have opportunity to get the answer on their own when possible); and, feedback (use of exemplars and helping students close the gap between their current performance and the desired standard). Group work is also favoured.

Teachers said that their ultimate goal is to facilitate learning, rather than to lecture students. By using feed-forward and feedback techniques, they are able to engage students in reflective thinking and problem-solving. Teachers also try to reach students who may have different learning styles. For example, one teacher noted that she may provide six tasks from which students can choose. She has students doing task work a majority of the time. She is able to wander around and work with students one on one while they are engaged in task work.

Conversations with students are also different. Teachers told us that they generally try to base their conversation around open-ended questions, providing positive feedback, and scaffolding of questions (e.g., "can you think about what might happen if you do such and such?") Teachers are conscious of the need to be flexible and to try to use different approaches to explaining a concept, or encouraging students who do understand a concept to explain the concept to their fellow students. Teachers place great emphasis on

having students help each other – again, emphasising to students who are tutoring one another to follow the model of asking questions, rather than just imparting information. Finally, teachers also mentioned that they spend a lot more time making games to use in class. These teachers also noted that there is more emphasis in classes on interacting and accepting others' ideas. One teacher, for example, uses a strategy of passing a ball around, specifying that only the person holding the ball can speak at that time.

The teachers said that they have a great deal of freedom with the MMP to take risks. "So long as objectives are covered..." one teacher noted, "...you can teach what you like here. We have relative freedom to teach units we like and set the timing of the units."

### **How do we know its working?**

Prior to implementation of the MMP, Waitakere College had received mixed reviews from the Education Review Office (ERO). Some of the more negative evidence from the 2000 ERO report was that:

- Maori student achievement in external examinations is generally just below the national mean.
- Senior managers have identified that the quality of curriculum delivery is inconsistent. They are endeavouring to improve the quality of teaching practice through school-wide professional development, particularly for mixed ability classes.
- Retention rates of Maori students compare poorly with those of other students. There is a marked drop in numbers of Maori students between years 10 and 11.
- Students have variable learning opportunities in English. Those in the top bands are focused and engage in inquiry and exploration of English processes and skills. Students in mixed ability classes are frequently off-task and are difficult for teachers to manage.

While it is too early to judge the long-term impact of the MMP on student learning, there are indicators that the Maori Mainstream Programme has helped to raise achievement since 2001. The evidence includes:

- Increased student retention. In the past, the school has tended to "lose" students in years 11 and 12, but this is no longer happening as much.
- Increased average student attendance. The average student attendance across the school "houses" is 83 to 90 half days. The MMP students are attending school an average of 87 1/2 days on average.
- Teachers spend more time on learning, and less on addressing behavioural problems.
- Ninety per cent of MMP students are earning credit toward the National Certificate Examination Award.
- Students tell us that they are also doing better in the Maori Mainstream Programme than in the non-Maori classes (although ultimately, a more positive indicator would be that students were achieving better in all classes).

Teachers mentioned a number of additional indicators that the programme is working well. For example students:

- Ask more questions and seem to feel safer asking questions.
- Are more likely to take risks (rather than not trying or giving up easily), and are more likely to ask task-related questions.
- Are making more connections between what they are learning in class and what is happening in their lives elsewhere or with what they have seen on TV.
- More readily share their ideas.
- Are happy to be doing exams (come prepared, books out, smiling faces and apply themselves to the exams).
- Take responsibility for the classroom environment and for challenging unacceptable behaviour from other students.

Students also noted their satisfaction with the programme. For example, they told us, several of them had won a "brainy" competition with non-MMP students, and that they were becoming the "nerds" (noted with a smile).

Waitakere College is measuring longer-term outcomes of the program. They are doing this by observing five students in the MMP over time. School leaders say that while there no baseline tests for students in the MMP, they will be able to compare common assessment tests in departments to get indicators of change. Waitakere is also planning to administer a survey on student attitudes.

### **The future of formative assessment at Waitakere College**

Based on these positive indicators, Waitakere College will continue funding for the half-time facilitator after the two-year Ministry of Education funding has ended. While as noted at the beginning of the case study, there are several innovations at Waitakere, school leaders tell us that they would like to expand the MMP model within the school. They believe that the MMP model of formative assessment is quite compatible with the NCEA (described in more detail in the discussion on New Zealand's policy context, below), and can lead to improved student learning throughout the school.

School leaders are now building a mentoring model to bring MMP "best practice" to other classes. They note that it will not be easy to get all teachers on board with this approach to teaching - that indeed, there are teachers who are unwilling to change, or have racist attitudes toward certain students. However, they are seeing quite a few of these teachers leave or retire, and are working at recruiting teachers who can work well with the school philosophy. The school leadership note that the latest teacher recruiting notices in the Gazette (where all schools place hiring advertisements) encourage applications from teachers who are "innovative, energetic, optimistic and resilient."

School leaders also see several challenges in trying to scale-up with formative assessment. They say that teachers are overworked. They also comment that it will be difficult to spread formative assessment practices to the more than one-hundred teachers in the school without a significant injection of funding over a longer period of time – a minimum of five years. School leaders observe that new programmes tend to fade away as teachers move on, or that they are unable to integrate the majority of teachers into the programme with little time and money.

In order to keep the MMP alive, school leaders will direct any additional funding they are able to raise toward support for the MMP model. In order to scale-up the MMP model across the school, however, they will need funds for teacher relief time, new mentors, and time for professional development aimed at the whole staff. Senior managers will also need to develop a strategic approach to influencing more teachers to use formative assessment, and to linking professional development, pedagogy and assessment in their strategic plan.

None of this will be easy to accomplish as teachers need to make a true change of "heart and head" to teach in the Maori Mainstream Programme /formative assessment model. Teachers in the Maori Mainstream Programme also told us that what they are doing is not accepted throughout the school - many teachers think the programme is a waste of time, and disagree with the idea that some students should get more intensive attention and input (following the old idea that equity means equal input).

### **Rosehill College**

Rosehill is a decile 7 school, which means that the school is at a fairly high socio-economic level. There are many international students at the school. Because international students pay tuition, Rosehill has a fairly healthy discretionary budget at its disposal. In 2001-02 school year, they had about NZ \$900,000 discretionary to spend.

Teachers throughout Rosehill College have been using formative assessment teaching methods for the last three to four years.

#### ***A whole school strategy for school improvement/development***

The principal of Rosehill College came to the school in 1995. His deputy principal, who has responsibility for curriculum and chaired the Board of Studies, joined Rosehill College leadership a few months later (the school has three deputy principals).

The principal and other school leaders became interested in formative assessment around 1998. Their initial interest in formative assessment was raised as they tried to figure out how to meet National Administration Guidelines (otherwise known as the NAGs) requiring schools to monitor progress and to address learning needs of students at risk of not achieving, or not achieving. They saw formative assessment, which requires teachers to think about what exemplifies good student work at the various learning levels, as a way to achieve this goal.

Rosehill's involvement in the national Assessment for Better Learning professional development programme (in particular, the involvement of the school's technology departments' in development of national curriculum exemplars) have also influenced the school's adoption and adaptation of formative assessment. The school's successful involvement in these initiatives has also encouraged teachers to find new opportunities and to continually improve themselves.

The main goal of the leadership team in implementing formative assessment teaching methods has been to make sure that staff members understand where the school as a whole is going and what the school is trying to achieve. According to the school principal, "... we wrote the goal...and we backed up the goal by good research, and it was self-evident in a way, that what we were doing ... would be helpful to students and teachers, so that got people decided." School leaders started staff discussions and provided professional reading on formative assessment (e.g., Black and Wiliam's *Inside the Black Box*), invited expert speakers, and asked individual departments within the school to work on their own ideas about how to implement formative assessment within classrooms.

### *A school culture centred on professional development and peer review*

While school leaders have been strategic in their approach, they believe that school culture has been perhaps the most important determinant of their success (of course, being strategic is part of the culture). The school principal observes, "...I think the school-wide thing is, it is about culture, ... and it's about leadership [and how you lead a group of a hundred professional teachers down a particular track] and so you start to think about planning. How do you get that group of people heading in the same direction?" The principal decided that the best way to accomplish this goal was through a process of consultation with teachers, parents, students and others and feeding what they learned back to teachers. He stresses that "I don't think that there's any... sort of mechanistic way that we can demonstrate what we've done because I think with a different leadership team it might not have been the same thing."

The school's leadership team is supported by the Board of Studies, comprised of department heads in each of the school's eight learning areas outlined in national curriculum statements. School leaders feel that the Board of Studies serves as the vital link in the whole process of getting good formative assessment practice into classrooms.

The information school leaders had gathered earlier about teaching and learning at the school, about teachers' particular frustrations, and so on, also helped the school leadership to communicate with teachers better about formative assessment. According to the school principal, "if you can grab the teachers and get their support for the process, then whatever you put in the plan becomes almost 'kindred'." The principal notes that the focus on formative assessment has evolved as part of a long-term process. As a consequence, he believes that there is quite a deep understanding of formative assessment - what it is, what it looks like in practice, how it makes a difference.

The school has also provided support for teachers to implement formative assessment in their classrooms. As noted above, there is a heavy emphasis on professional development. All teachers have an hour set aside for professional development every Tuesday morning (school starts an hour later every Tuesday).

When asked what motivates staff to engage in this type of ongoing professional development, school leaders replied that "...New Zealand teachers tend to be like that, don't they? They tend to be pretty committed people and they tend, when they see a good idea, they tend to get stuck in and do the work." At Rosehill, teachers are engaged in the process throughout the school, and that's been significant. There's also an annual self-review within the school. School leaders believe that "... if you've got self-review and if you're talking to teachers about focusing on teaching and learning, you get a school-wide approach." According to school leaders "...there're still plenty of teachers who probably won't want a bar of it, who don't care and who think we're absolutely crazy..." but they feel that they've gotten "over the hump and suddenly it's going the right way ....."

That said, the school has been fairly successful at influencing classroom practice across the school. The Board of Studies has developed action plans for formative assessment and professional development feeds into the action plans. Teachers are also held accountable for implementation of the action plans. Each department has grappled with separate issues related to formative assessment. In the science department, teachers address discrete topic areas. Teachers devised a grid to show more complex ideas developing. Over time, teachers have focused more on providing students with comments rather than on giving marks. They have found that the comments have helped to clarify expectations for students.

The school has been able to bring new teachers in and train them in the school's strategy and approach to teaching. They have been fortunate in hiring in teachers who "buy into" the school's strategy and approach to teaching. As the school principal describes, it's "...sort of magical in a way....As new teachers

come into the school, particularly new beginning teachers they're sort of ...[infused] with the ideas of different people.”

Beginning teachers are matched with more experienced teachers who assist them with planning and schemes. Some work with prepared units and other departments provide documents linked to curriculum. Teachers who are newer to Rosehill College note that the school’s professional development was a real attraction in deciding come to the College.

As with Waitakere College, teachers at Rosehill College have been involved in the ‘Assessment for Better Learning’ professional development programme. The school has focused on formative assessment in classroom practice and in school-wide policies and procedures. Their practice has been further deepened by involvement in the development of National Curriculum Exemplars. [National Curriculum Exemplars are authentic samples of student learning generated from high quality teaching and learning experiences. Accompanying curriculum matrices demonstrate how key aspects of the learning indicate progression of learning from levels one to five of the New Zealand national curriculum.]. The technology department worked with a national technology facilitator to develop units of work and capture evidence of technological development in student learning. The provision of feedback to students enabled them to make progress in their conceptual development, and experience the integral role of formative assessment in learning (for more information about exemplars refer to [www.tki.org.nz/r/assessment/exemplars](http://www.tki.org.nz/r/assessment/exemplars)). The school’s successful involvement in such initiatives as these has enhanced the school’s own development on formative assessment.

Teacher discussions regarding standards have also served as an important form of professional development. As the principal noted, “...actually talking about it and establishing ... what is a good piece of work... That teacher talk stuff ... it's fantastic.”

### ***Ongoing monitoring and evaluation***

As mentioned above, school leaders first became interested in formative assessment in the process of learning more about NAG requirements, and Ministry requirements that schools develop benchmarks on student progress. Their focus on formative assessment has been, in part, an effort to align policies and measurements.

Teachers and school leaders have concentrated on establishing and aligning benchmarks and standards over the past school year. As a consequence of this work, Rosehill is now in the position where a student in Year 9 will be able to look at a piece of work which has been benchmarked, and understand where gaps in their own work are. School leaders feel that the implications of that on student learning could be quite significant.

The school has also put forth a clear and consistent message on the priority of using formative assessment methods in the classroom. The school mission and goals related to formative assessment are posted on walls around the school [essentially promoting a message of excellence, linking teaching, learning and assessment]. School leaders also believe that the use of middle managers (i.e., heads of departments) to communicate messages is very important.

For those teachers who aren't following the school approach to curriculum and formative assessment, the deputy principal says that she will push until they do. There are also checkpoints along the way – as teachers are required to hand in reports showing what they have been doing toward meeting benchmarks and implementing formative assessment.

Teachers and departments monitor and evaluate teaching strategies. In the English department, for example, teachers prepare action plans, making notes on how individual students are handling the learning

material, and identifying common needs for the class. Teachers discuss their action plan with a moderator to ensure common 'standards' within year levels in the school, and as a form of professional development. Teachers discuss ideas, exchange resources, revise plans and support one in another in their teaching in departmental meetings.

### ***A willingness to "fix and adjust" along the way***

During the process of implementing formative assessment throughout the school and in individual classrooms, the principal notes, they have been down blind alleys, have done things wrong, and have sweated a lot. The principal describes the process as having involved "...a lot of discussion, a lot of debate, a lot of philosophical sort of argument." As a result, there is a shared language among teachers, and a shared understanding among various departments about the purpose and methods of formative assessment.

School leaders note that in the early days, formative assessment became an exercise of its own, to the point where a student was heard to ask "when are we having our next formative assessment, sir?" According to school leaders, "one department had these formative assessments that they'd run at various stages and they had absolutely nothing to do with what they were doing in the room at the time, like they'd become special events formative assessments because they'd taken it like too far. It had come right out of context." Teachers were also confused about how to best approach formative assessment. For example, teachers tried to record things that became mini-summative – but did not provide that feedback to students. Now students are getting feedback to improve their work.

All teachers, departments and the Board of Studies, agreed that the system was not working, that formative assessment had turned into something that was too high stakes. School leaders were also concerned that the whole thing was just "becoming another a monster of bureaucracy and assessment", focused on compliance without any understanding of what the school was all about. The school turned to the consultant for help.

The consultant (funded via the school's involvement in AToL) is now working with the Board of Studies to help them sort out what type of measurement is necessary, and what is superfluous under the current system. She has done a thorough analysis of current practice, involving the heads of department and one or two key teachers. The departments have identified next steps and now have a development plan that meets their needs. The consultant has helped teachers to clarify their thoughts and has provided a wealth of suggestions for simplifying teacher's work.

### **What's different in classrooms?**

Teachers described "traditional secondary school" teaching in New Zealand classrooms as follows:

The teacher stands at the front of the room and lectures. The teacher calls on students for answers, and tells students whether they are right or wrong. There is little chance for dialogue, group work, or for students to take any personal responsibility as to what or how they *will learn* (*other than being responsible for getting passing grades*).

The quality of interaction between teachers and students is much different in this scenario. While some teachers feel that they have always used aspects of formative assessment (i.e., in mathematics, teachers build on previous concepts all the time in order to move forward to next concepts), teachers have also become more effective by changing several aspects of their practice, such as timing and specificity of feedback, scaffolding of questions, and focusing on students' learning skills.

### ***Constant attention to providing students with performance criteria, feed forward and feedback***

Teachers and school leaders at Rosehill define formative assessment as follows: “..basically it's giving kids feedback, feed forward about how to improve their learning....I would say that it's looking at a piece of student's work that a student's doing and it may not just be the teacher that does that, and giving them some information about what's good about it and the, some next steps to improve.”

In the English department, teachers now make a regular practice of sharing the criteria they will use for assessment of students work as they begin each unit. Criteria are set up as rubrics (achieved, merit, excellence) so that students know what is required at each level. Teachers in Rosehill's Mathematics department require students to record criteria, feed forward and feedback and their learning plans on a tracking sheet. The tracking and action plan system is part of the departmental professional development focus in the 2003 school year. At present, department members are streamlining the system, and working to ensure that all teachers are using it and using it consistently (practice has been somewhat variable amongst teachers in the first year of the system).

Feed forward techniques at Rosehill usually involve a lesson preview. For example, it is common practice for teachers to write up learning goals on the board at the beginning of the class. Teachers tend to write up a flow chart or lists outlining what students will learn during the class, and how the lesson will build on previous learning.

Teachers have found that timing of the feedback is crucial. In the past, feedback had been completely disconnected from what students were working on. For example, one informant noted, the Science department used to follow a topic for about six weeks and at the end of the six weeks they'd mark the topic and give the students their results. However, by the time the students got their results they were three weeks into the next topic. Teachers noted that instant feedback can often be more important than the kind of feedback that is recorded. Teachers are also more specific about what students need to do to improvement their work. In the English department, for example, students get feedback from their teacher as well as from peers on those aspects on which they are performing well, and those on which they need to focus greater attention. Teachers provide extra references, resources and materials that address aspects of learning needing attention.

Students told us that they like the feedback they get from their teachers. They are particularly interested in the specifics about what they can do to change their work in order to make it better. They told us that they were much more interested in getting constructive feedback and specific comments than they are on getting praise. Students we spoke with were mixed, however, on whether they look at grades or comments first. (Teachers have the impression that students usually question assessment grades. Teachers would like to do away with grades so that students just focus on the feedback - but they also say that the management side need grades to ensure everyone does the assessment.)

### ***A focus on content and skills***

Teachers told us that they found one of the most challenging aspects of teaching in the formative assessment mode is instilling in students the ability to find what is missing in their work, figuring out what to do next, and then taking responsibility for following through on next steps. Teachers try to model the steps, encouraging students to be specific about what their own work shows, and then taking it a step further to improve the work. The key element, they find, is in focusing student attention on specifics relating to criteria (in checklist form) for a high quality piece of work. Teachers often try to approach this task by breaking it down into smaller goals, for example, working with students to write a perfect topic sentence.

Teachers note that they have to have well-planned lessons - part of the goal being to have time to talk to students individually during the lesson time. Teachers find that the best feedback that they are able to provide students often occurs informally. Other feedback occurs when students are working on homework. One teacher noted that some of his students often send e-mail asking for feedback. The teacher will send back bullet points on issues to consider - which students seem to like and to use. Another teacher notes that he spends quite a bit of time talking with students about what they need to do next to reinforce their knowledge. They might ask students to research information in their textbook, to look at information on the Internet, or look at student exemplars.

The Mathematics Department tracking system described above is another approach to guiding students to self-sufficiency. By keeping a record of their learning, students are able to identify what they are best at, what they need to focus on, and where they need help. Students also devise their own action plan as to what to do prior to summative assessments at the end of units of work. The department is also developing a template students can use to formulate their action plans, and classroom posters to guide students in their learning (all topics are geared toward credits for the NCEA). Students are expected to work on identified areas of need during class and homework time, and refer to resources such as Intra and Internet sites, homework books, textbook references, teacher, peers, mathematics sites (such as maths-on-line; school Intranet for extra resources), and wall charts. Students record their progress on a overview sheet for the year according to criteria given out with the unit (rubrics related to achieved, merit, excellence).

### ***Importance of group work***

Teachers at Rosehill use groups on a regular basis to actively involve students in learning. They comment, however, that sometimes there is a tension as to when to move on - when a majority of students have understood a concept, but a few are struggling and need more time to complete the work. The teachers note that they sometimes group students differently to adjust learning for them and allow them to continue. Often, the challenge is an issue of students' own time management skills.

While teachers did not mention the culture of the school as a particularly important element, it is likely one of the contributing factors to their success. Students noted that teachers at Rosehill are "pretty sweet with us" and that most teachers are helpful and will answer any questions.

### **How do we know its working?**

School leaders and teachers provided several pieces of evidence that formative assessment is leading to positive student outcomes. They include:

- Improvement of school C results (which are national benchmarks - no longer available, due to the change to NCEA).
- Student results on NCEA exams comparable to or better than student results from higher decile schools.
- Teachers' comments that they think about more variables when teaching, and are more attentive to students' learning differences.
- Students' responsiveness to feedback, and efforts to incorporate feedback into their work.
- Increased student motivation and engagement in learning.

- Data gathered (and recorded) on student tracking sheets showing how they have addressed learning gaps, and progressed toward learning goals.
- Maintenance of high standards and achievement on common assessment tasks, in spite of evidence that the writing and reading abilities and attitudes of incoming students are declining (suggesting that teaching and learning programmes are helping students to close learning gaps effectively).
- Outstanding reviews from the independent Education Review Office.

School leaders have also expressed their intention to analyse NCEA data over a couple of years (once such data are available) to ascertain trends in student achievement, indicate changes to teaching programmes and adjust expectations of student performance standards. The school is also in the process of developing benchmarks, and will have more data in the future. Once they have the benchmarks, they will be able to track student progress more closely.

### **The future of formative assessment at Rosehill College**

In Spring 2003, Rosehill's principal of seven years moved on to a new school to find new challenges. It appears that the changes of the past several years are now embedded in the school culture. Teachers and school leaders remaining at the school are keen to have Rosehill continue the school's involvement in the national curriculum exemplars pilot project, as well as the Assess to Learn contracts (including their development of curriculum exemplars in technology). Teachers are also committed to continuing the set-aside time dedicated to discussing education research and other aspects of professional development.

As further evidence of the school's continued support for formative assessment, the ERO reported in August 2003 that:

... Senior managers are making good progress towards achieving ambitious goals for the improvement of formative assessment practice and for measuring student achievement. ... Staff demonstrate the capacity to further improve the quality of assessment for improved teaching and learning. Senior managers demonstrate a commitment to the utilisation of current assessment theory.

Teachers at the school have grappled with ideas behind formative assessment, and how to bridge theory and practice. For example, several of teachers mentioned that they would like to focus only on formative assessment, and forget marks altogether - but also realize that the school and the national system will continue to require marks. There are a variety of arguments as to whether formative and summative assessment are ultimately compatible. Teachers at Rosehill will need to resolve the tension between the two forms of assessment on their own terms.

Rosehill's efforts to revise and simplify formative assessment bode well for the future of the effort. Teachers already face heavy workloads, so streamlining formative assessment practice - while ensuring that it is effective - is of the essence. Teachers at Rosehill also share obstacles with other New Zealand teachers, such as a crowded curriculum, and the need to keep moving forward so that subjects are fully covered, as required by the national curriculum.

## **The Policy Context**

### ***Policy support for formative assessment***

Formative assessment received only passing attention in early stages of major school reforms in New Zealand. However, a number of influential researchers (including Terry Crooks, Geraldine McDonald, Rae Munroe, and John Hattie) worked to place formative assessment on the national agenda through their involvement in Ministry Working Papers and public discussion documents. These researchers made important contributions to the New Zealand Curriculum Framework, the National Education Monitoring Project (particularly Terry Crooks), and professional development programmes, such as the *Assessment for Better Learning* (ABeL) project implemented in 1995.

In 1998 a number of factors came together to put formative assessment more firmly on the Ministry's agenda. A 1998 Green Paper, *Assessment for Success in Primary Schools* received wide attention. The Green Paper asked for public input on the principles of assessment, the possibility of developing national exemplars (with the intention to provide teachers with clear examples of expected levels of student achievement in relation to achievement objectives (1998), various assessment tools such as externally referenced tests, and Maori versions of the assessment tools. The report emphasised the importance of informal classroom assessment (building on research on earlier efforts, such as the ABeL).

At about the same time, the New Zealand teacher union was protesting the possible introduction national testing, then under discussion in the Ministry. Ministry officials sought advice from other countries on the issue of testing and assessment, in particular, the Scottish Department of Education, where formative assessment was high on the agenda. The incoming government chose to place greater emphasis on assessment tools, rather national testing. Formative assessment is now embedded in several national policy documents (including the curriculum framework and the National Administration Guidelines), professional development programmes, and innovation projects.

### ***The curriculum framework***

The New Zealand Curriculum Framework (national curriculum) which has evolved over the past ten years, outlines seven essential learning areas, and eight essential skills for schools. The Framework sets out several principles for teaching. The principles:

...are based on the premises that the individual student is at the centre of all teaching and learning, and that the curriculum for all students will be of the highest quality. The principles affirm and reflect New Zealand's identity. They provide national direction while allowing for local discretion. All schools must ensure that the principles are embodied in their programmes.  
The New Zealand curriculum Framework, pages 6-7

In addition, the Curriculum Framework stresses the importance of equal educational opportunities by recognising and addressing differences, responding to the needs of male and female students, students of all ethnic groups, of different abilities and disabilities, and of different religious and social backgrounds.

The guidelines establish learning goals ("achievement objectives"), and describe the importance of diagnostic and formative assessment for enhancing teaching and learning. Achievement objectives are to provide the basis for planning programmes, assessing student progress, and providing students with clear concepts of their learning goals. Achievement objectives in the curriculum areas are based on broad principles of the curriculum framework, but have been developed separately for each subject area. The English achievement objectives, for example, stress that "...language is a developmental process and that students within a single class will be operating at different levels of learning..." The mathematics and science curricula stress the importance of teaching should "...recognise, respect, and respond to the

educational needs, experiences, achievements and perspectives of all students: both female and male; of all races and ethnic groups; and of differing abilities and disabilities.”[p. 11, science curriculum framework].

### ***The National Administration Guidelines***

The National Administration Guidelines (NAGs) require schools to, “...through a range of assessment practices, gather information that is sufficiently comprehensive to enable the progress and achievement of students to be evaluated...” Schools are also asked to, “...on the basis of good quality assessment information, identify students and groups of students” who are not achieving or are at risk of not achieving, or have special needs. Schools are also required to identify “...aspects of the curriculum which require particular attention”. (<http://www.minedu.govt.nz/index.cfm?layout=document&documentid=8187&data=1>)

The NAGs require schools to consult with the local Maori community, develop strategic plans, and maintain ongoing programmes for self-review. In addition, schools are required to report to students and parents on the “...achievement of individual students, and to the school’s community on the achievement of students as a whole and of groups...including the achievement of Maori students against the plans and targets” established in consultation with the school’s Maori community.”

### ***Assessment Resource Banks***

In late 1993, the Ministry initiated the development of high quality assessment tools to supplement teacher and school-generated tasks. The Assessment Resource Banks (ARBs), which only became available in 1997, includes a range of assessment resources in Mathematics, Science and English, covering the levels 2 to 6 of the national Curriculum statements. The tools are available via the world wide web. Teachers can select items ranging from multiple-choice to constructed-response and practical tasks, matching assessment material to match curriculum and teaching objectives (Gilmore and Hattie, 2000).

An independent evaluation report indicated that teachers in 43 per cent of New Zealand schools were using the online tools: browsing for assessment ideas, providing diagnostic information, comparing achievement against objectives, teaching resources and for formative assessment (Gilmore and Hattie, 2000). Nevertheless, a strong recommendation of the report was for further professional development for teachers in general computer skills, specific information about the ARBs and assistance in integrating ARBs into teaching and learning programmes.

### ***Teacher professional development***

The Ministry sponsors several programmes for teacher professional development. These include the ABeL project mentioned above, and the newer AToL professional development programme.

The ABeL project, initiated in 1995, aims at helping schools to improve their assessment, recording and reporting, school-wide assessment policies and systems, and implementation of national assessment policy requirements. A formal independent evaluation of ABeL, undertaken in 2000, observed that the majority of schools had effectively implemented school-wide systems of assessment, improved reporting practices and better understanding of formative assessment and feedback. However, the report recommended further development in understanding formative assessment and reporting to parents (Peddie, 2000).

These recommendations were acted upon in the revised professional development programme of Assess to Learn (AToL) in 2002, with its focus on assessment for learning, and raising teacher familiarity with national assessment tools. The new AToL professional development programme encourages teachers and schools to review current assessment practices, and to incorporate recently developed national assessment tools into their practice in formative ways. AToL programmes are intended to support

implementation of new curriculum statements, or programmes that meet high priority goals of the Ministry (such as the Ministry's literacy and numeracy programme, and the NCEA). Apart from these special programmes, however, the Ministry does not require teachers to update their skills on a regular basis.

### ***Exemplars***

The 1998 Green Paper *Assessment for Success in Primary Schools* highlighted a gap in the availability of achievement information in the primary years and thus proposed the development of 'exemplars of student work referenced to the achievement objectives for all curriculum statements' (1998, p. 19). A 1999 *Curriculum Update* (39:7) described the purpose of exemplars as 'being an aid to teaching and learning' and in thus making a distinction between the terms 'exemplar' and 'benchmark'.

The Ministry of Education has subsequently supported the development of exemplars for several of its programmes. For example, through its 2000 Literacy and Numeracy Strategy, the Ministry and expert panel members developed assessment tools and exemplars of students' work to help clarify what is expected of students at each level and appropriate ways of determining students' levels of achievement. The Ministry is also sponsoring the development of national curriculum exemplars for primary level student performance across the curriculum. These exemplars include sample teacher-student dialogues and written teacher comments, showing how teachers might assess student work in a formative manner, and in a way that is sensitive to different learning and communication styles of students. The exemplars are available on-line at <http://www.tki.org.nz/>

### ***Monitoring and evaluation***

The Ministry monitors trends in student achievement across the New Zealand Curriculum through the National Education Monitoring Project, initiated in 1995. NEMP is a longitudinal study, assessing about three per cent of eight and twelve-year old students, looking at students' knowledge, skills, motivation and attitudes. NEMP also pays attention to "the best of existing assessment practices in ...[New Zealand] schools..." [see <http://nemp.otago.ac.nz/>]. NEMP reports are intended to provide data for policy makers and teachers in improving teaching and learning outcomes.

In addition to these national tests, the Education Review Office (ERO) inspects schools, monitoring their effectiveness and progress in meeting commitments made in individual school charters. In other words, schools are judged against standards they set themselves. The ERO process does not include a formal review of formative assessment practices in schools, but reviewers, nevertheless, do typically discuss assessment practices in their reports. Schools, by and large, view ERO reviews as an opportunity to reflect on their strategy and practice, and welcome inspectors into the schools. In turn, the ERO invites teachers from other schools to participate in the ERO process. Teachers often view their participation in ERO as an excellent opportunity for professional development.

### ***NCEA (including professional development)***

The National Certificate of Educational Achievement (NCEA) is being phased in between 2002 and 2004. The NCEA levels were developed as a way to recognise the full range of what students have learned. The NCEA replaces the School Certificate, Sixth Form Certificate, and University Bursaries, which had been widely viewed as involving "intolerable workloads", and incompatible with the standards-based National Qualifications Framework (NQF).

The NCEA is also seen as a way to give credit for learning not measured through examinations. Students may earn NCEA credits. Students may gain credits toward the NCEA through externally, or internally generated credits. Students may gain all their credits through either internal or external credits, so long as they are assessed against unit standards.

The Ministry is providing extensive professional development for secondary schools as the new NCEA levels are being phased in. Professional development focuses on using and interpreting achievement standards in making their assessment judgements for internal assessments, and in preparing students for external assessments.

Between 2002 and 2004, the Ministry is investing the majority of its professional development (secondary school) budget in NCEA training for teachers. This training also emphasises the use of formative assessment in helping students to meet the NCEA standards.

### ***Funding of innovation grants***

There are relatively few private funders in New Zealand, so the majority funding for innovation in schools comes from the Ministry. The Ministry regularly funds one and two-year innovation grants such as the Maori Mainstream Programme discussed above. While schools have a great deal of freedom to design programmes for which they receive funding, the lack of diversity in funding sources means that, to a large extent, the Ministry still controls the direction of innovation and new programme development. The lack of external funding also poses a challenge to schools wishing to sustain an innovation programme over a longer period of time.

### ***Additional factors***

Because New Zealand is a small country and the education system is fairly streamlined, the Ministry enjoys a much closer relationship with local schools than would be possible in larger countries or in federal systems. Key informants also emphasised that New Zealand teachers are regarded as professionals; several of those teachers interviewed noted that they have relative freedom to try new teaching methods and approaches.

### **Summary**

Teachers at Rosehill College have come to the use of formative assessment across the school partly as a way to meet national benchmark requirements, but also because they have grappled with the ideas behind formative assessment and have developed their own approaches to using ongoing assessment in their classrooms. Teachers at both Waitakere and Rosehill are learning how to re-balance and re-prioritize their work to include more classroom assessment.

Intensive professional development has been essential for teachers at Rosehill and in the Waitakere MMP. The half-time co-ordinator at Waitakere, as teachers describe, plays a vital role in both bringing new ideas and research to the teachers, and in giving them practical tips after observing their classes. Rosehill's emphasis on setting aside time for professional development every week, and holding school-wide discussions about research on teaching and learning have also proved invaluable to establishing a culture of innovation and reflective practice.

Ministerial policies are well aligned (essential for effective implementation of new programmes), provide teachers with tools and guidance, and are supported through investments in professional development and innovation. This bodes well for improved practice in schools throughout New Zealand. Deep changes in practice, however, will require strong school leadership, and participation and engagement from all teachers.

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