MĀORI STUDENTS ASSESSMENT RESULTS IN MUSIC, TECHNOLOGY, READING AND SPEAKING 2000 NEMP

Assessment Results for Māori Students 2000

Music
Aspects of Technology
Reading and Speaking

Terry Crooks
Lester Flockton

EARU

NATIONAL EDUCATION MONITORING REPORT 20

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This report was prepared and published by The Educational Assessment Research Unit, University of Otago, New Zealand under contract to the Ministry of Education, New Zealand.

NATIONAL EDUCATION MONITORING REPORT 20
ISSN 1174-0000
ISBN 1-877182-31-1

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2 ACKNOWLEDGEMENTS

The Project directors acknowledge the vital support and contributions of many people to this report, including:

- the very dedicated staff of the Educational Assessment Research Unit
- Ms Janet Pereira, for her major contribution to task translation and Chapter 2
- Dr David Philips and other staff of the Ministry of Education
- members of the Project's National Advisory Committee
- members of the Project's Māori Immersion Education Advisory Committee and Māori Reference Group
- representitives of Te Rūnanga Nui o ngā Kura Kuapapa Māori o Aotearoa
- members of the Project's Music Advisory Panel, Technology Advisory Panel and Reading and Speaking Advisory Panel
- the six consultants who translated tasks into Māori
- principals, staff, and children of the schools where tasks were trialled
- principals, staff, and Board of Trustee members of the 294 schools included in the 2000 sample
- the 3217 children in the 2000 sample, and their parents
- the 108 teachers who administered the assessments to the children
- the 44 senior tertiary students who assisted with the marking process
- the 188 teachers who assisted with the marking of tasks early in 2001

TE KAUPAPA

I tīmata mai te National Educational Monitoring Project i te tau 1993, ā, ko tāna, he aromatawai, he hanga pūrongo hoki mō ngā taumata e ekengia ana e ngā tamariki o ngā kura tuatahi i roto i ngā wāhanga katoa o te marautanga. E rua ngā taumata ako e aromatawaia te tamaiti; i te tau 4 (ko te hauruatanga tēnei o ngā tau e kura tuatahitia ana te tamaiti), me te tau 8, otirā, koianei tēnei te tau mutunga o te tamaiti ki te kura tuatahi. I roto i te huringa whā tau, ka aromatawaia ētahi wehenga o te marautanga. I te tau 2000, ko ngā wāhi i tirohia ko te pūoru, ko ētahi wāhanga o te hangarau, ko te pānui me te kōrero.

Ko te whāinga nui o te arotake ā-motu, ko te rangahau i ngā kōrero e mōhiotia ai he aha ngā tauira pai, e taea ai te whakanui i ngā tutukitanga, te whakarerekē rānei i ngā kaupapa ako me ngā rauemi.

Ia tau, ka whiria noatia ētahi tamariki puta noa i te motu, hei arotake mā ētahi kaiwhakaako kua whakaritea, e matatau ana hoki ki te mahi nei. Ka mahia katoatia ngā mahi ki ngā kura ako tonu o aua tamariki. Ka hoatuhia ētahi tohutohu ā-waha, e ngā kaiwhakaako, mā te whakaaturanga kōpae whakaata, mā runga rorohiko pōnaho, mā te tuhituhi rānei. Ko te maha o ngā mahi aromatawai, me nanao ngā tamariki ki ētahi taputapu, rauemi hoki. Ko ā rātou whakautu ka tukuna mai e rātou ā-waha nei, mā te whakaatu ā-tinana, mā te tuhituhi, mā runga kōpae rorohiko, mā tētahi atu huarahi whakatinana mai rānei. He maha ngā whakaatu nei ka hopukina ki runga rīpene ataata hei arotakenga ā muri iho.

TE PŪRONGO NEI

E hāngai ana te titiro o tēnei pūrongo ki ngā akonga o te tau 8 anake. I tīmata mai i te tau 1999 ētahi kaupapa aromatawai i ngā ākonga tau 8 anake o roto o ngā whakaakoranga rumaki reo puta noa i te motu. I te tau 2000, āhua e 60 ōrau o ngā ākonga i ngā whakaakoranga rumaki kei roto i ngā kura rumaki (te nuinga i ngā Kura Kaupapa Māori), ā, ko te 40 ōrau e toe ana i te ako i ngā rūma rumaki reo (ko ēnei kei ngā kura auraki, engari e 80 ki te 100 ōrau o ngā whakaakoranga i roto i te reo Māori). I tēnei o ngā aromatawai, i whakamāoritia katoa ngā tohutohu mahi me ngā rauemi ki roto i te reo Māori, me te mea anō, ko ngā kaiwhakaako nā rātou ngā akoako i tuku, he matatau rātou ki te ako i roto i te reo Māori. E takoto ana i roto i te pūrongo nei, ko ngā whiwhinga ki ngā ākonga nei, me ngā whiwhinga ki ērā ākonga Māori o te tau 8 i aromatawaitia, engari i whakaakongia ki roto i te reo Ingarihi.

1: NGĀ MEA NUI

Ko tā te Wāhanga 1, he whakamārama i ētahi āhuatanga nui o te National Education Monitoring Project e hāngai ana ki te pūrongo

2: HE TAKE

Kei te Wāhanga 2 ētahi whakamārama mō ētahi āhuatanga ka pā mai ki te whakamāoritanga o ngā arotake i roto i ngā horopaki rumaki reo Māori, ka arotahi atu ki ngā whakatauritenga mō ngā tutukitanga mātauranga o ngā ākonga Māori kei ngā kura rīroa ki ērā ākonga Māori kei ngā whakaakoranga rumaki reo Māori.

Ko tētahi āhuatanga kei te kitea, kāore i te tino pērā rawa te pakari o ngā reo Māori o ngā ākonga i ngā whakaakoranga rumaki me te aha, me te mea anō kaore rātou i te tino mārama ki ngā tohutohu mō ngā tū mahi, ā, kāore hoki i te pai ā rātou whakamārama i roto i ā rātou whakautu. I tonoa ngā akoranga rumaki Māori kia tohu mai rātou ko ēhea o ā rātou ākonga i tutuki ngā tau e whā i roto i ngā whakaakoranga rumaki reo Māori. Ka tīpakotia mai ētahi o ēnei ākonga mōhio hei uru atu ki te mahi arotake ā-motu. Hāunga tērā, uaua tonu mō ētahi o ngā ākonga mōhio nei ki te whakawhitiwhiti kōrero i te reo Māori, ā, ko ētahi i hiahia kē kia arotakengia rātou i te reo Ingarihi.

Ko tētahi anō take ko te whakamāori o ngā tū mahi me ngā rauemi mai i te reo Ingarihi ki te reo Māori. I whakapaihia ake ngā hātepe mō te whakamāori kōrero i te tau 2000 mai i ngā raruraru nui i pā mai i te tau 1999, engari kei reira tonu te wero nui arā, te ngana kia noho taurite ngā tū mahi kei roto i te reo Māori ka hoatuna ki ngā ākonga, ki ngā tū mahi ka hoatuna ki aua ākonga anō kei roto i te reo Ingarihi.

Ko ētahi take nui ka pā ki te whakamāoritanga o ngā putanga, ko te rerekē o ngā kaupapa o te marautanga ka whāia e tēnā, e tēnā kura rumaki reo Māori, rūma rumaki reo rānei, tāpae atu ko te iti rawa iho o ngā rauemi ako hei tautoko i ngā tū mahi. Nā runga i te mea he rerekē ngā mea nui o te marautanga mō te mātauranga rumaki reo Māori, ko te titiro ka rerekē anō hoki te āhua o ngā tutukitanga mātauranga a ngā ākonga rumaki reo Māori.

I tua atu, kei te whakahiatotia tonutia te mātauranga rumaki reo Māori. He maha ngā kura me ngā rūma rumaki reo Māori kātahi anō ka tū i roto i ngā tau tata nei kua taha. Torutoru noa iho ngā rauemi whakaako reo Māori rātou ko ngā kai-whakaako reo Māori he tohu tiketike ā rātou. Nā te kaha tautoko mai o ngā kai-whakaako, ngā pakeke me ngā ākonga e ekea ai ēnei ārai ki te whai i te mātauranga. Ahakoa tērā, ko te titiro ka pakari ake te kaupapa ina tipu haere te mātauranga rumaki reo Māori.

3: PŪORU

Ko tā te Wāhanga 3 he hora i ngā putanga o ngā mahi aromatawai i ngā mōhiotanga, ngā māramatanga me ngā toi a ngā ākonga mō te pūoru. Ko ngā hua o te ako pūoru, ka mārama ki ngā ākonga te pai o te pūoru, ka whanake ō rātou pohewa, ka ako rātou ki te whakamahi me te whakamāori pūoru mō ngā take maha, ā, ka tarea tā rātou rāwekeweke rauemi pūoru i runga i te mōhio. Mā te ako ki te pūoru e mōhio ai ngā ākonga ki te tūranga o te pūoru i roto i te ao, e mōhio ai hoki rātou ki ngā pūoru o tō rātou iwi, o iwi atu hoki.

Tekau mā toru ngā tū mahi pūoru i akona ki ngā ākonga Māori i ngā kura rīroa, i ngā kura rumaki reo Māori. I tohu rātou ki ētahi hātepe taketake e whā: te auaha pūoru, te auaha hōu i ētahi pūoru kua oti kē te mahi, te urupare ki te pūoru, me te whai māramatanga mō te pūoru. O ngā tū mahi tekau mā toru, e iwa i tutuki pai e ngā ākonga o ngā kura rīroa me ngā ākonga o ngā akoranga rumaki reo. I roto i tētahi o ngā tū mahi teitei ake ngā putanga o ngā ākonga rumaki reo Māori, ā, i roto i ngā tū mahi e toru, teitei ake ngā putanga o ngā ākonga Māori kei ngā kura rīroa.

4: ĒTAHI ĀHUATANGA O TE HANGARAU

Ko tā te Wāhanga 4 he hora i ngā putanga o ngā mahi aromatawai i ngā mōhiotanga, ngā māramatanga me ngā toi a ngā ākonga mō ētahi āhuatanga o te hangarau. Ko te hangarau he tū mahi auaha, whai take e arotahi atu ana ki te tutuki i ngā hiahia me ngā tuwheratanga mā te hanga mai o ētahi rauemi, pūnaha, momo taiao hoki. Ka huia katoahia te mātauranga, ngā toi me ngā rauemi ki te rapu hua whai kiko i roto i ētahi horopaki hapori. He maha ngā āhuatanga o te hangarau, me te mea, i roto i ngā aroturuki ā-motu ka aromatawaitia ko ētahi wāhanga matua anake o te hangarau.

Tekau mā whitu ngā tū mahi hangarau i tukuna hei mahi mai mā ngā ākonga rumaki reo Māori rātou ko ngā ākonga Māori kei ngā kura rīroa. I tohu ngā tū mahi nei ki ētahi whenu e toru o te marautanga hangarau arā: mātauranga me te māramatanga ki te hangarau, te āheinga hangarau me te hangarau i te hapori. Ōrite te pai o ngā mahi a ngā ākonga rumaki reo Māori rātou ko ngā ākonga kura rīroa i roto i ngā tū mahi e iwa. Teitei ake ngā putanga a ngā ākonga rumaki reo Māori i roto i ngā tū mahi e rua, ā, teitei ake ngā putanga a ngā ākonga Māori i ngā kura rīroa i roto i ngā tū mahi e ono.

5: PĀNUI ME TE KŌRERO

Ko tā te Wāhanga 5, he hora i ngā putanga o ngā aromatawai o ngā pūkenga pānui, kōrero hoki a ngā ākonga. Ko te ngako o te reo, ko te whakawhitiwhiti. Ko tēnei mea nei te whakawhitiwhiti, he hora i ngā mātauranga, ngā wheako, ngā pārongo, ngā ariā me ngā kare ā-roto ki mua i te aroaro o ētahi atu. Nā runga i te mea he hātepe whakaranu te whakawhitiwhiti, haere ngātahi ai ngā taha ā-waha, tuhituhi, ā-kanohi hoki. Hei tauira, ki te tātaria te whakatū me te whakahaere o tētahi whakaari, ka kitea te haerenga ngātahi o ngā pūkenga o te pānui me te kōrero. I runga i tēnei, e kore e tarea ēnei tū mahi e kōrerotia nei te mawehe ki ētahi wāhanga e rua. Ko ētahi o ngā tū mahi hei te nuinga o te wā kei te pānui kē, ā, ko ētahi o ngā tū mahi hei te nuinga o te wā kei te kōrero kē, me te mea anō, i ētahi atu anō tū mahi, he ōrite ngā wāhanga pānui me te kōrero.

Tekau mā rua ngā tū mahi pānui, kōrero i tukuna ki ngā ākonga Māori o ngā kura rīroa me ngā ākonga rumaki reo Māori. E rua ngā tū mahi i whakahau i ngā ākonga ki te pānui i ētahi kupu Māori, tuhinga Māori rānei, engari te mea ko ngā tohutohu o ngā tū mahi mā ngā ākonga Māori i ngā kura rīroa, i roto kē i te reo Ingarihi. Ko ngā tū mahi tekau i toe, i tukuna i roto i te reo Ingarihi ki ngā ākonga Māori i ngā kura rīroa, i tukuna hoki i roto i te reo Māori ki ngā ākonga i ngā akoranga rumaki reo Māori; engari i te rite te ngako o ngā tū mahi me ngā tohutohu nei,

ahakoa reo Māori mai, Ingarihi mai. Ōrite te pai o te mahi a ngā ākonga Māori i ngā kura rīroa me ngā ākonga i ngā akoranga rumaki reo Māori i ngā tū mahi e rima. Teitei ake ngā putanga a ngā ākonga rumaki reo Māori ki ngā ākonga Māori kura rīroa i roto i ngā tū mahi e toru (ko ētahi ko ngā tū mahi me pānui te ākonga i ētahi kupu Māori, rerenga kōrero Māori rānei.). Waihoki, teitei rawa ake ngā putanga a ngā ākonga Maori kura rīroa i roto i ngā tū mahi e whā.

6: NGĀ TIROHANGA

Ko tā te Wāhanga 6, he whakatakoto i ngā putanga o ngā tiro whānui i waenganui i ngā ākonga mō ō rātou hiahia i roto i te marautanga, tāpae atu ko ō rātou whakaaro mō ā rātou tutukitanga me ō rātou pūmanawa nohopuku i roto i ngā kaupapa ako o te pūoru, te hangarau, te pānui me te kōrero.

Ko te whāinga i āta kitea i roto i te tiro whānui mō te pūoru, ki te whakaritea ngā ākonga Māori kura rīroa ki ngā ākonga rumaki reo Māori, nui ake te kuhu atu, pārekareka ake ki ngā ākonga rumaki reo te waiata i roto, i waho hoki o te kura. I kī ake ngā ākonga Māori kura rīroa, iti noa ngā wā whakarongo ai rātou ki ngā pūoru i waho ake o te kura, ā, kaore i pērā rawa i ngā ākonga rumaki reo Māori tā rātou pārekareka ki te whakarongo ki ngā pūoru i te kura, i waho atu rānei.

I whakaae tahi ngā tōpūtanga ākonga e rua nei, ko te hanga me te whakatauira ngā āhuatanga nui rawa atu o te hangarau, engari i tohu anō ngā ākonga rumaki reo Māori ki te wāhi nui o te whakamahi i te rorohiko i roto i tēnei kaupapa. I te whakataurite nga o ngā tōpūtanga momo ākonga e rua nei, e 20 ōrau te tokomaha ake o ngā ākonga rumaki reo Māori i tohu, i te tau ō rātou whakaaro mō tā rātou pai ki te hangarau.

I ngā tiro whānui mō te pānui me te kōrero i kitea he nui ngā rerekētanga i ngā tauira urupare o ngā ākonga Māori kura rīroa ki ngā ākonga i ngā akoranga rumaki reo Māori. I te wāhanga i tonoa rātou kia whakarārangitia mai e rātou ngā tikanga e hua ake ai he kai-pānui pai rawa atu, i tohu ngā ākonga rumaki reo Māori ki te ako i ngā kupu uaua, te whakarongo ki te kai-whakaako, me te hanga whakaaro mō tērā e pānuitia ana e rātou. Kāore rātou i tohu ki te whakapau kaha ina pānui pukapuka te ākonga, te pārekareka i te wā e pānui ana, me te whiriwhiri i te pukapuka e tika ana. I ngākau nui rātou ki te pānui i te kura, i te whiwhi pukapuka hei taonga, me te hōpara haere i ngā toa hoko puka-puka, heoti, kāore rātou i te tino ngākau nui ki te mahi pānui a te kai-whakaako i mua o ngā ākonga katoa. I tohu rātou ki te mea iti iho ngā wā i whai wāhi rātou ki te pānui ki ngā ākonga katoa o tō rātou taiwhanga ako, ki te pānui ki ētahi rānei kei tō rātou taiwhanga ako. Tekau ōrau o ngā ākonga Māori kura rīroa, me te 35 ōrau o ngā ākonga rumaki reo Māori i tohu ki te mea ko te reo Māori te reo matua i ō rātou kāinga.

TE TIROHIA WHĀNUITIA

Ko te kōrero whānui, i roto i ngā tū mahi e 55 ōrau, ōrite te pai o te tutuki o ngā mahi a ngā ākonga Māori kura rīroa rātou ko ngā ākonga rumaki reo Māori. Teitei ake ngā putanga o ngā ākonga rumaki reo Māori i roto i ngā tū mahi e 14 ōrau, ā, teitei ake ngā putanga o ngā ākonga Māori kura rīroa i roto i ngā tū mahi 31 ōrau. Kia tūpato tonu i te wā ka tātaria ngā putanga nei, i runga tonu i ngā take i whakatakotoria i te Wāhanga 2. Ā ngā tau kei te tū mai, kia pai ake ngā huarahi aromatawai, kia pakari ake hoki ngā ara rumaki reo Māori, tērā ka hua ake ngā putanga whai kiko. He maha ngā kura me ngā rūma rumaki reo Māori kātahi anō kua tuwhera i roto i ngā tau tata nei, me te mea anō torutoru noa iho ā rātou rauemi.

THE PROJECT

New Zealand's National Education Monitoring Project commenced in 1993, with the task of assessing and reporting on the achievement of New Zealand primary school children in all areas of the school curriculum. Children are assessed at two class levels: Year 4 (halfway through primary education) and year 8 (at the end of primary education). Different curriculum areas and skills are assessed each year, over a four year cycle. In 1999, the areas covered were science, art, and the use of graphs, tables and maps.

The main goal of national monitoring is to provide detailed information about what children can do so that patterns of performance can be recognised, successes celebrated, and desirable changes to educational practices and resources identified and implemented.

Each year, small random samples of children are selected nationally, then assessed in their own schools by teachers specially seconded and trained for this work. Task instructions are given orally by teachers, through video presentations, on laptop computers, or in writing. Many of the assessment tasks involve the children in the use of equipment and supplies. Their responses are presented orally, by demonstration, in writing, in computer files, or through submission of other physical products. Many of the responses are recorded on videotape for subsequent analysis.

THIS REPORT

This report focuses solely on year 8 students. Starting in 1999, assessments of students learning in Māori immersion programmes were added to the national monitoring programme, at the year 8 level only. In 2000, about 60 percent of these Māori immersion students were learning in immersion schools (mainly Kura Kaupapa Māori), while the other 40 percent were learning in immersion classes (located in mainstream schools, but having 80 to 100 percent of instruction conducted in Māori). For this special sample, the assessment tasks and task materials were translated into Māori and administered by teachers experienced in Māori immersion settings. The results these students achieved are reported here, together with comparative figures for Māori students in the main year 8 national monitoring sample (whose schooling was conducted predominantly in English).

1: KEY FEATURES

Chapter 1 explains key features of the National Education Monitoring Project that are relevant to this report.

2: ISSUES

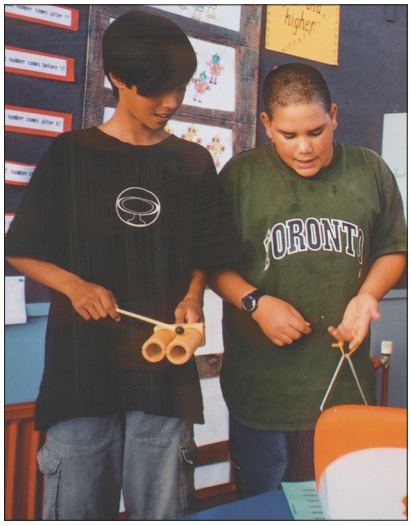
Chapter 2 explains some issues affecting the interpretation of the assessments in Māori immersion settings, and especially the comparisons of the achievements of Māori students in general education and Māori immersion programmes.

One issue is that some of the students in Māori immersion settings had not yet developed sufficient skills in te reo Māori to fully understand task instructions or to communicate their responses well. The selected Māori immersion schools were asked to indicate which of their students had completed more than four years of immersion education, and national monitoring samples were selected from these experienced students. Nevertheless, some of the selected students still struggled with communication in Māori, and a few would have preferred to be assessed in English.

Another issue involved the translation of tasks and material from English to Māori. Improved procedures in 2000 addressed the more serious translation problems experienced in 1999, but ensuring that students assessed in two different languages are facing equivalent tasks remains a major challenge.

Other important issues issue affecting interpretation of the results are the different curriculum emphases in Māori immersion schools and classes (and limited availability of suitable resources for their teaching and learning programmes).

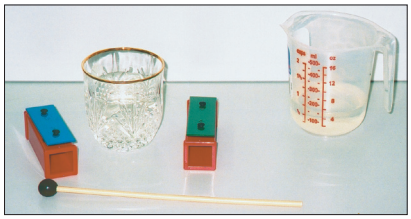
Because curriculum priorities are different for Māori immersion education than for general education, patterns of achievement can be expected to differ accordingly. Also, Māori immersion education is in an early stage of development. Many immersion schools and classes have been established for only a few years. Teaching and learning resources in Te Reo Māori are scarce, as are teachers with suitable expertise. High levels of teacher, parent and student commitment help to compensate for these obstacles to successful learning, but further improvement should be achieved as Māori immersion education grows and consolidates.



3: MUSIC

Chapter 3 presents results of the assessments of students' knowledge, understanding and skills in music. Music education gives learners opportunities to develop their aesthetic appreciation, their capacities for original and imaginative expression, and their abilities to use and interpret musical elements for a variety of purposes and with a range of materials. Music education can help students become aware of the distinctive functions of music in society and to know about the artistic heritage of their own and other cultures.

Thirteen music tasks were administered to individual Māori students in both general education and Māori immersion settings. They addressed four fundamental processes: creating music, re-creating music, responding to music and understanding music. Māori students in general education and Māori students in Māori immersion settings performed equally well on nine of the thirteen tasks. Students in immersion programmes scored statistically significantly higher on one task and Māori students in general education scored statistically significantly higher on three tasks.



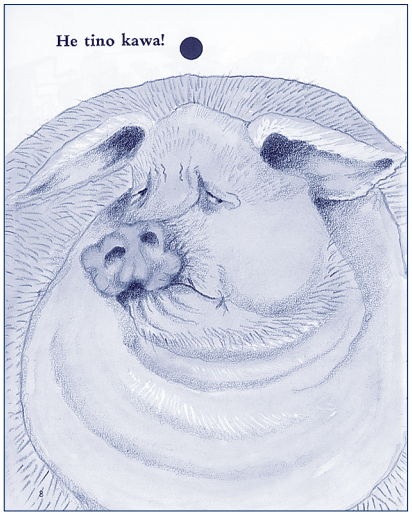
4: ASPECTS OF TECHNOLOGY

Chapter 4 presents results of the assessments of students' knowledge, understanding and skills in aspects of technology. Technology is a creative, purposeful activity aimed at meeting needs and opportunities through the development of products, systems or environments. Knowledge, skills and resources are combined to help solve practical problems in particular social contexts. Technology is a multi-disciplinary activity, and in the national monitoring assessments only some key aspects could be assessed.

Seventeen technology tasks were administered to individual Māori students in both general education settings and Māori immersion settings. These tasks addressed the three strands of the technology curriculum: technological knowledge and understanding, technological capability, and technology and society. Māori students in general education and Māori students in Māori immersion settings performed equally well on nine tasks. Students in immersion programmes scored statistically significantly higher on two tasks and Māori students in general education scored statistically significantly higher on six tasks.

5: READING AND SPEAKING

Chapter 5 presents the results of the assessments of students' skills in reading and speaking. The purpose of language is communication. Communication is a process of sharing knowledge, experiences, information, ideas and feelings. Because communication is essentially an interactive process, the oral, written and visual components of language are highly interrelated. The ability to read and present a play, for example, combines skills of reading and speaking. For this reason, the tasks discussed here cannot neatly be divided into two categories. Some predominantly involve reading, some predominantly involve speaking, and others involve a more equal mix of reading and speaking.



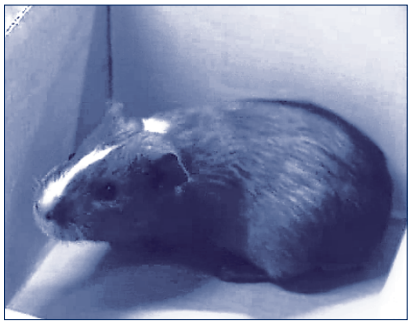
Twelve reading and speaking tasks were administered to individual Māori students in both general education settings and Māori immersion settings. Two tasks required all students to read Māori words or text, although the task instructions were given in English for the Māori students in general education settings. The other ten tasks were presented in English for the Māori students in general education and in Māori for the students in Māori immersion settings, but involved the same instructions and content in translation. Māori students in general education and Māori students in Māori immersion settings performed equally well on five tasks. Students in Māori immersion programmes scored statistically significantly higher on three tasks (including the two tasks involving reading of Māori words or text) and Māori students in general education scored statistically significantly higher on four tasks.

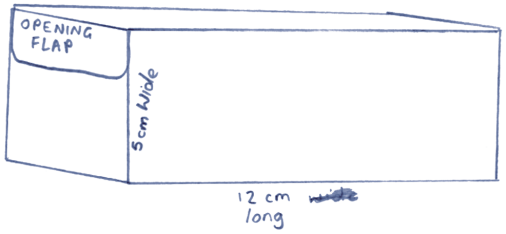
6: SURVEYS

Chapter 6 reports the results of surveys of students about their curriculum preferences and perceptions of their achievement and potential in music, technology, reading and speaking.

The most notable findings from the music survey were that, compared to Māori students in general education, students in Māori immersion programmes reported greater involvement in and enjoyment of singing, both in and outside of school. They also said that they spent less time listening to music out of school time, and expressed lower levels of enjoyment of listening to music both in and out of school.

Both groups saw making and designing as the most important aspect of technology, but students in Māori immersion programmes also gave strong prominence to computer use.





Compared to Māori students in general education, about twenty percent more Māori immersion students were very positive about how good they were at technology.

In the reading and speaking surveys, there were a number of notable differences between the response patterns for Māori students in general education and students in Māori immersion programmes. When identifying important things to do to be a good reader, Māori immersion students emphasised learning hard words, listening to the teacher, and thinking about what they read. They placed less emphasis on concentrating hard, enjoying reading books, and choosing the right book. They were more positive about reading at school, getting a book for a present, and looking at books in a bookshop, but less positive about their teacher reading a story out loud and about talking to their whole class. They reported fewer opportunities to talk to their whole class or to others in their class. Ten percent of Māori in general education and 35 percent of Māori immersion students indicated that Māori was the main language spoken at home.

OVERALL

Overall, in the curriculum areas covered by this report, Māori students learning in Māori immersion settings and those learning in English language settings performed similarly on 55 percent of the tasks. Students in Māori immersion settings scored higher on 14 percent of the tasks, while Māori students in general education scored higher on 31 percent of the tasks. These results should be interpreted cautiously, for the reasons presented in Chapter 2. Over the next few years, as experience leads to improved assessments and Māori immersion education continues its development, the results should become more meaningful. Many immersion schools and classes have been operating for just a few years, with very limited resources.

This chapter presents a concise outline of the rationale and operating procedures for national monitoring, together with some information about the reactions of participants in the 2000assessments. More detailed information about the samples of students and schools is available in the Appendix.

Purpose of national monitoring

The New Zealand Curriculum Framework (1993, p26) states that the purpose of national monitoring is *to provide information on how well overall national standards are being maintained, and where improvements might be needed.*

The focus of the National Education Monitoring Project (NEMP) is on the educational achievements and attitudes of New Zealand primary and intermediate school children. NEMP provides a national "snapshot" of children's knowledge, skills and motivation, and a way to identify which aspects are improving, staying constant, or declining. This information allows successes to be celebrated and priorities for curriculum change and teacher development to be debated more effectively, with the goal of helping to improve the education which children receive.

Assessment procedures and tasks are selected to provide a rich picture of what children can do and to optimise value to the educational community. The result is a quite detailed national picture of student achievement. It is neither feasible nor appropriate, given the purpose and the approach used, to release information about individual students or schools.

Monitoring at two class levels

National monitoring assesses and reports what children know and can do at two levels in primary and intermediate schools: year 4 (ages 8-9) and year 8 (ages 12-13). Because this report focuses only on year 8 students, no further details of the assessments of year 4 students are included here.

National samples of students

National monitoring information is gathered using carefully selected random samples of students. The main national sample of 1440 year 8 children represents about 2.5 percent of the year 8 children in New Zealand schools. These students are educated predominantly in English. A special sample of 120 year 8 children learning in Māori immersion schools or classes is also selected. They are educated entirely or predominantly in Māori. This report compares the achievement of Māori students in these two samples (educated in English or Māori).

Three sets of tasks at each level

So that a considerable amount of information can be gathered without placing too many demands on individual students, different students attempt different tasks. The 1440 students selected in the main sample are divided into three groups of 480 students, comprising four students from each of 120 schools. The 120 students in the Māori immersion sample, drawn from 16 schools, are divided into two groups of 60 students. These two groups of 60 students attempt, in Māori, two of the sets of tasks used with the main sample. The third set of tasks used with the main sample is not used in the Māori immersion assessments.

Timing of assessments

The assessments take place in the second half of the school year, between August and November. The year 8 assessments in English occur first, over a five week period. The year 8 assessments in Māori follow, over a similar period. Each student participates in about four hours of assessment activities spread over one week.

Specially trained teacher administrators

The assessments are conducted by experienced teachers, usually working in their own region of New Zealand. The four teachers working with Māori immersion students are experienced with such students. All teachers are selected from a national pool of applicants, attend a week of specialist training in Wellington led by senior Project staff, and then work in pairs to conduct assessments of 60 children over five weeks. Their employing school is fully funded by the Project to employ a relief teacher during their secondment.

Four year assessment cycle

Each year, the assessments cover about one quarter of the national curriculum for primary schools. *The New Zealand Curriculum Framework* is the blueprint for the school curriculum. It places emphasis on seven essential learning areas, eight essential skills, and a variety of attitudes and values. National monitoring aims to address all of these areas, rather than restrict itself to preselected priority areas.

The first four year cycle of assessments began in 1995 and was completed in 1998. The second cycle runs from 1999 to 2002. Assessments of Māori immersion students have been included only from 1999. Similar cycles of assessment are expected to be repeated in subsequent four year periods.

About one third of the tasks are kept constant from one cycle to the next. This re-use of tasks allows trends in achievement across a four year interval to be observed and reported.

Important learning outcomes assessed

The assessment tasks emphasize aspects of the curriculum which are particularly important to life in our community, and which are likely to be of enduring importance to students. Care is taken to achieve balanced coverage of important skills, knowledge and understandings within the various curriculum strands, but without attempting to slavishly follow the finer

details of current curriculum statements. Such details change from time to time, whereas national monitoring needs to take a long-term perspective if it is to achieve its goals.

Wide range of task difficulty

National monitoring aims to show what students know and can do. Because children at any particular class level vary greatly in educational development, tasks spanning multiple levels of the curriculum need to be included if all children are to enjoy some success and all children are to experience some challenge. Many tasks include several aspects, progressing from aspects most children can handle well to aspects that are more challenging.

Engaging task approaches

Special care is taken to use tasks and approaches that interest students and stimulate them to do their best. Students' individual efforts are not reported and have no obvious consequences for them. This means that worthwhile and engaging tasks are needed to ensure that students' results represent their capabilities rather than their level of motivation. One helpful factor is that extensive use is made of equipment and supplies which allow students to be involved in "hands-on" activities. Presenting some of the tasks on video or computer also allows the use of richer stimulus material, and standardizes the presentation of those tasks.

Positive student reactions to tasks

At the conclusion of each assessment session, students complete evaluation forms in which they identify tasks that they particularly enjoyed and tasks that did not appeal. Averaged across all tasks in the 2000 assessments, 77 percent of the year 8 students in the main sample indicated that they particularly enjoyed the tasks. The students in Māori immersion settings were even more positive, with 80 percent indicating that they particularly enjoyed the tasks. The students' parents and teachers also reacted very positively to the tasks and assessment approaches.

Appropriate support for students

A key goal in Project planning is to minimise the extent to which student strengths or weaknesses in one area of the curriculum might unduly influence their assessed performance in other areas. For instance, skills in reading and writing often play a key role in success or failure in paper-and-pencil tests in areas such as science, social studies, or even mathematics. In national monitoring, a majority of tasks are presented orally by teachers, on videotape, or on computer, and most answers are given orally or by demonstration rather than in writing. Where reading or writing skills are required to perform tasks in areas other than reading and writing, teachers are happy to help students to understand these tasks or to communicate their responses. Teachers are working with no more than four students at a time, so are readily available to help individuals.

To further free teachers to concentrate on providing appropriate guidance and help to students, so that the students achieve their best efforts, teachers are not asked to record judgements on the work the students are doing. All marking and analysis is done later, when the students' work has reached the Project office in Dunedin. Some of the work comes on paper, but much of it arrives recorded on videotape. In 2000, more than half of the students' work came in that form. The video recordings give a detailed picture of what both the student and teacher did and said, allowing rich analysis of both process and task achievement.

Four task approaches used

In 2000, four task approaches were used. Each student was expected to spend about an hour working in each format. The four approaches were:

- *One-to-one interview.* Each student worked individually with a teacher, with the whole session recorded on videotape.
- *Stations.* Four students, working independently, moved around a series of stations where tasks had been set up. This session was not videotaped.
- *Team .* Four students worked collaboratively, supervised by a teacher, on some tasks. This was recorded on videotape. The students then worked individually on some paper-and-pencil tasks.
- *Group and Independent.* Four students worked collaboratively, supervised by a teacher, on some tasks. This was recorded on videotape. The students then worked individually on some paper-and-pencil tasks..

Professional development benefits for teacher administrators

The teacher administrators reported that they found their training and assessment work very stimulating and professionally enriching. Working so closely with interesting tasks administered to 60 children in at least five schools offered valuable insights. Some teachers have reported major changes in their teaching and assessment practices as a result of their experiences working with the Project.

Marking arrangements

The marking and analysis of the students' work occurs in Dunedin. The marking process includes extensive discussion of initial examples and careful checks of the consistency of marking by different markers.

Tasks which can be marked objectively or with modest amounts of professional experience usually are marked by senior tertiary students, most of whom have completed two to four years of preservice preparation for primary school teaching. Forty-four student markers worked on the 2000 tasks, most employed 5 hours per day for either 5 or 6 weeks. Several of these students were appropriately qualified to mark work presented in Māori.

The tasks that require higher levels of professional judgement are marked by teachers, selected from throughout New Zealand. In 2000, approximately 60 percent of the teachers who applied were appointed: a total of 195. Most teachers worked either mornings or afternoons for one week. One to three teachers in each marking group were suitably qualified to mark work presented in Māori. Teacher professional development through participation in the marking process is another substantial benefit from national monitoring. In evaluations of their experiences on a four point scale ("dissatisfied" to "highly satisfied"), more than 80 percent of the teachers who marked student work in 2000 chose "highly satisfied" in response to questions about:

- the extent to which marking was professionally satisfying and interesting;
- its contribution to professional development in the area of assessment;
- whether they would recommend NEMP marking work to colleagues:
- whether they would be happy to do NEMP marking again.

Analysis of results

The results are analysed and reported task by task. Results achieved by the Māori students in the main sample are compared with results achieved by students in the Māori immersion sample. Because of the small numbers of students in the latter sample, no analysis by subgroups (such as boys and girls) is included in this report.

Funding arrangements

National monitoring is funded by the Ministry of Education, and organised by the Educational Assessment Research Unit at the University of Otago, under the direction of Associate Professor Terry Crooks and Lester Flockton. The current contract runs until 2003. The cost is about $2.5 million per year, less than one tenth of a percent of the budget allocation for primary and secondary education. Almost half of the funding is used to pay for the time and expenses of the teachers who assist with the assessments as task developers, teacher administrators or markers.

Reviews by international scholars

In June 1996, three scholars from the United States and England, with distinguished international reputations in the field of educational assessment, accepted an invitation from the Project directors to visit the Project. They conducted a thorough review of the progress of the Project, with particular attention to the procedures and tasks used in 1995 and the results emerging. At the end of their review, they prepared a report which concluded as follows:

> The National Education Monitoring Project is well conceived and admirably implemented. Decisions about design, task development, scoring, and reporting have been made thoughtfully. The work is of exceptionally high quality and displays considerable originality. We believe that the project has considerable potential for advancing the understanding of and public debate about the educational achievement of New Zealand students. It may also serve as a model for national and/or state monitoring in other countries.
>
> *Professors Paul Black, Michael Kane & Robert Linn,* 1996

A further review was conducted late in 1998 by another distinguished panel (Professors Elliot Eisner, Caroline Gipps and Wynne Harlen). Amid very helpful suggestions for further refinements and investigations, they commented that:

> We want to acknowledge publicly that the overall design of NEMP is very well thought through……The vast majority of tasks are well designed, engaging to students and consistent with good assessment principles in making clear to students what is expected of them.

Further Information

A more extended description of national monitoring, including detailed information about task development procedures, is available in:

Flockton, L. (1999). *School-wide Assessment: National Education Monitoring Project*. Wellington: New Zealand Council for Educational Research.

The 1999 national monitoring assessments were, to our knowledge, the first assessments conducted at national level in Te Reo Māori using tasks originally developed to be administered nationally in English. Predictably, under these circumstances, some significant difficulties were experienced in that first year. These were carefully evaluated and substantial improvements in the sampling, translation and assessment procedures were implemented for the assessments in 2000. The improvements addressed concerns about the language capabilities of the sampled students and the appropriateness of the Māori translations, but considerable caution is still required when interpreting the results presented in this report. This chapter explains why such caution is needed.

Development and Selection of Tasks

About 10 percent of the assessment tasks used with the Māori immersion students were developed from ideas put forward at a task development hui of Māori immersion teachers, held in Rotorua. These were tasks believed to be particularly appropriate for students learning in Māori immersion settings, but they were also used nationally in the assessments conducted in English.

The remaining 90 percent of tasks were proposed by teachers participating in regional task development workshops, NEMP staff members, or by members of the NEMP national advisory panels for music, technology or literacy. Initial ideas were developed and tried out by NEMP staff, and then subjected to careful scrutiny by the advisory panel for that curriculum area (each of which included at least one Māori immersion educator). All tasks were then checked for their suitability for Māori students by those attending a combined meeting of the NEMP Māori Immersion Education Advisory Committee and the NEMP Māori Reference Group (the latter focuses on the interests of Māori students who will be assessed in English).

The tasks resulting from these procedures have been accepted as relevant to all categories of students, including Māori immersion students. Nevertheless, given the imbalance in the sources of the tasks, the total collection of tasks somewhat favours students learning in English from the mainstream curriculum rather than students learning in Māori from the Māori curriculum. For future assessments, greater involvement of Māori immersion teachers in task development will continue to be given priority, with the help of Te Runanga Nui o nga Kura Kaupapa Māori o Aotearoa.

Translation from English to Māori

In 1999, tasks were translated to Māori after task materials, instructions and questions had been finalised in English. Each task was sent to one of the four translators. That translator translated the English into Māori and sent their translation back to the NEMP office, where it was typed. The typed translation was then sent to another translator, who translated it back into English (this process is called back translation) and then opened an envelope containing the original English version of the tasks. Where the original English and the back translation differed significantly, the two translators who had worked on the task would discuss the discrepancies and revise the Māori version so that it was as consistent as possible with the English version. After checking and re-typing by NEMP staff, the English and Māori versions were sent to Te Taura Whiri (The Māori Language Commission) for checking and guidance on further improvements.

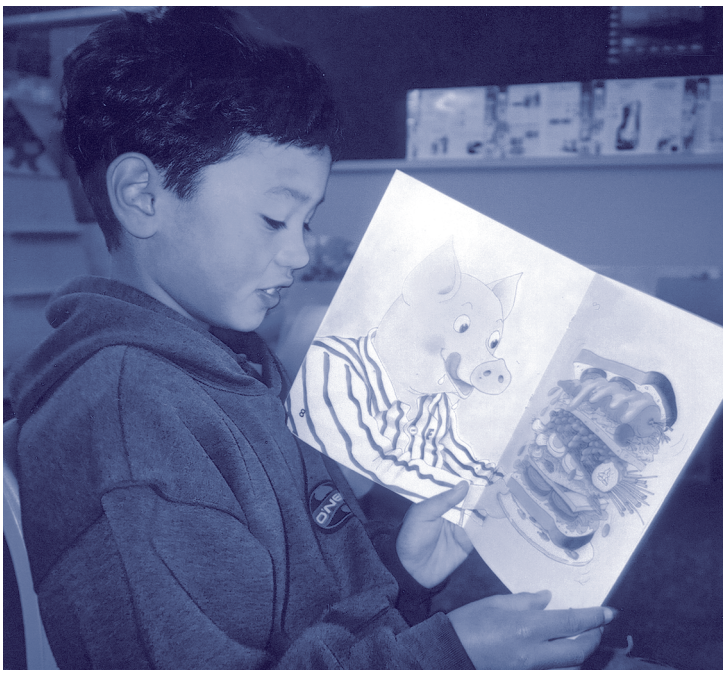
One concern with the process used in 1999 was a tendency for the Māori version to use language more appropriate to adults than to children. Another concern arose from the fact that the English version was final, so the option of making some changes in the English version to improve the equivalence of English and Māori versions was not available. As a result, the Māori versions often tended to use more words and to be linguistically more complex. In a few instances, it became evident that students responding to the Māori version were very significantly impeded by translation issues.

Major changes were made to translation processes for the 2000 assessments. Six translators, including two native speakers, working in two teams of three, were brought together in Dunedin for two one-week periods. This allowed considerable consultation within teams, and then consultation between teams after back translation had occurred. Three of the translators had administered assessment tasks in 1999, and were well aware of the language capabilities of year 8 students and the difficulties that had been experienced in 1999. The English language versions of the tasks were not in final form, so that where necessary the English could be edited to facilitate the development of Māori and English versions that were conceptually and linguistically equivalent.

After initial translation, all tasks were tried out in a Kura Kaupapa Māori, and further adjustments made. Finally, all tasks were reviewed by two experienced immersion teachers not previously involved in the translation work. They looked specifically at the appropriateness of task language for year 8 students. The entire translation process was closely supervised by a NEMP staff member who had evaluated thoroughly the 1999 translation processes and outcomes. In reaching final decisions about task wording, she worked collaboratively with the NEMP directors and one of the senior translators.

Student Sample and Task Administration

The original sample of schools and students for the 2000 assessments reflected the national population of year 8 students with five or more years of Māori immersion learning. Seventy percent of the 120 selected students were in immersion schools (predominantly Kura Kaupapa), while the other 30 percent were in immersion classes (80 to 100 percent of instruction in Māori) at mainstream schools. Unfortunately, two immersion schools withdrew from the assessments too late to be replaced, reducing the sample by 16 students, so that the final sample had 65 percent of students in immersion schools and 35 percent in immersion classes.



The assessments are planned on the assumption that all Māori immersion students will be assessed in Māori. Teachers administering NEMP tasks are trained to offer students help with language so that language difficulties are less likely to undermine students' performances. For instance, limited reading or writing capabilities should not be allowed to prevent students from showing what they can do in music or technology. For this reason, the teachers administering the tasks in 1999 were permitted to explain instructions in English if students appeared to understand better in English than in Māori. Because of school policies, however, this was not usually appropriate in immersion schools — only in immersion classes. The teachers rated each student on their apparent capabilities in Māori.

Limited understanding of te reo Māori was a significant concern in administering tasks to at least 30 percent of the students in 1999. For the assessments in 2000, account was taken of international research suggesting that at least five years of immersion in a language is required before performance on assessments in that language is not significantly undermined by language difficulties. Only students reported by schools to have had five or more years in Māori immersion education were included in the 2000 assessments. This allowed all assessments to be conducted predominantly or entirely in Te Reo Māori. Despite these precautions, a few of the students still indicated in questionnaire responses that they would have been more comfortable being assessed in English.

Interpretation of Results

This report compares the results achieved by Māori students in Māori immersion settings with the results achieved by Māori students in general education (English language) settings.

Readers should be very cautious, however, in drawing any conclusions about the relative merits of Māori immersion and English language education from these results. While translation and task administration issues were much less of a concern for the 2000 assessments, it is still not clear that Māori immersion students were on an equal footing with general education students in understanding the tasks and communicating their responses. It is desirable that a higher proportion of tasks used in the Māori immersion assessment originate from Māori immersion educators, and that some of the tasks are developed in Māori and then translated into English.

It should also be remembered that curriculum emphases are different in Māori immersion education and English language education. While all schools must address the essential learning areas and essential skills of the New Zealand curriculum, Māori immersion education places much greater emphasis on Māori language and culture, with a correspondingly reduced emphasis on English literacy until the late years of primary education. Also, quite modest differences in emphasis and timing for other curriculum areas could have significantly influenced the comparative results reported here.

In conclusion

A final point is that Māori immersion education is in a comparatively early stage of development. Many immersion schools and classes have been established for only a few years. Teaching and learning resources in Te Reo Māori are scarce, as are teachers with suitable expertise. High levels of teacher, parent and student commitment help to compensate for these obstacles to successful learning, but further improvement should be achieved as Māori immersion education grows and consolidates

ABOUT THE TASK

Te Wai Tōmiti — Disappearing Water

Approach: Station

Focus: Explanation of evaporation and understanding of the water cycle.

Resources: Video showing evaporation with hand fanning and use of a hair dryer.

Students did this task on their own at a 'station,' writing their own answers.

What this task was evaluating.

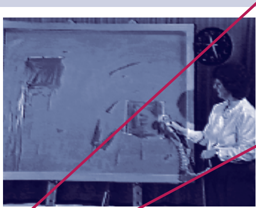
The resources that were used in this task.

Questions/instructions:

In this activity you are going to watch a video clip showing people cleaning a blackboard, then answer some questions about what you saw happening in the video.
Watch the video and then answer these questions.
You may replay the video if you need to.

I tēnei mahi e mātakitaki ana koutou i tētahi rīpene ataata poto o ngā tāngata e ūkui ana i te papatuhituhi, kātahi ka whakautu i ngā pātai o ngā mahi i kite koutou.
Mātakitaki i te ataata, ā, ka whakautu i ēnei pātai.
Me whakaatu anō te rīpene ataata mehemea koutou e hiahia ana.

Students saw or heard the tasks ***either*** in English ***or*** Māori. This bilingual presentation is to make the results easier to read. Unusual words were translated.



WHAT THE STUDENTS SAW (BLUE) / WHAT THE STUDENTS ANSWERED (RED)

	% responses GEd	MI
1. Why did fanning the wet blackboard help it to dry? He aha i maroke ai te papatuhituhi i te <u>tāwhiritanga</u> [fanning]?		
fanning moves moist air away from the blackboard to allow more to evaporate	0	0
mentions wind and/or water vapour and/or evaporation	9	12
mentions wind or air movement only	63	79
2. ... ake ai te maroke o te papatuhituhi i te mahana?		
mentions increased warmth helping evaporation	50	34
3. Where does the water go as the blackboard dries? Ka tōmiti te wai ki hea i te wā e maroke haere ana te papatuhituhi?		
evaporation or equivalent (eg. "into the air")	50	40

	% responses GEd	MI
4. Now think about a puddle on the foot-... water go when the ... hōpuapua i te ara ... ki hea ina tōmiti ai		
... air and the ground	9	2
into the air/sky	46	40
into the ground	30	30
...ain in one place ...er place that is ... this happens. ...am with labels to ...wer. ...hi wāhi i ...i pāmamao. ...a i pēnā ai? Tāngia he hoahoa, me ōna tapa, hei whakamārama i tō whakautu.		
Includes all three aspects: water evaporation from source, cloud movement, rain falling elsewhere	10	14

GEd: General Education
Māori students educated in English who were in the main sample.

MI: Māori Immersion
Māori students educated in Māori in Māori immersion schools or in Māori immersion classes within mainstream schools.

12% of the Māori Immersion students mentioned wind and/or water vapour and/or evaporation in their answer.

9% of Māori students in the General Education sample mentioned wind and/or water vapour and/or evaporation in their answer.

OTHER COMMENTS

Commentary

Overall, the performances of GEd (General Education) and MI (Māori Immersion) students were not statistically significantly different.

Comments on the task or the results that help when interpreting the results.

Underlined words indicate an English equivalent was provided. In this report the translation has been inserted into the text. Students, however, saw the English word in the right margin.

He aha i maroke ai te papatuhituhi i te <u>tāwhiritanga</u>? fanning

Music education represents part of a balanced curriculum for all New Zealand school students. It gives learners opportunities to develop their aesthetic appreciation, their capacities for original and imaginative expression, and their abilities to use and interpret musical elements for a variety of purposes and with a range of materials. Music education can help students become aware of the distinctive functions of music in society and to know about the artistic heritage of their own and other cultures.

This chapter reports the results of thirteen music tasks administered to individual Māori students in both general education settings and Māori immersion settings. The tasks address four fundamental processes: creating music, re-creating music, responding to music and understanding music.

Six tasks were administered in a videotaped one-to-one interview format and seven were attempted in a station format (where students worked independently on a series of tasks, all of which used laptop computers to present musical examples).

National monitoring results are reported task by task so that results can be understood in relation to what the students were asked to do. To allow comparisons of performance between the 2000 and 2004 assessments, however, five of the thirteen tasks have been designated link tasks. Student performance data on these tasks are presented in this report, but the tasks are described only in general terms because they will be used again in 2004.

Māori students in general education and Māori students in Māori immersion settings performed equally well on nine tasks. Students in immersion programmes scored statistically significantly higher on one task and Māori students in general education scored statistically significantly higher on three tasks. These comparisons must be interpreted with considerable caution, for the reasons discussed in Chapter 2.

He Reo Tūtū — Vocal Sizzle

Approach: One to one
Focus: Listen to singing and imitate it.
Resources: Video recording on laptop computer.

Question/instructions:

In this activity you will hear some short pieces of music on the video. I want you to listen carefully.

After you have heard each piece, I want you to try to sing it the same way. Sing "doo" to each of the tunes.

There are 7 phrases all together. We'll start now.

Ka rongo koe i ētahi toi puoro poto, mai i te ataata.

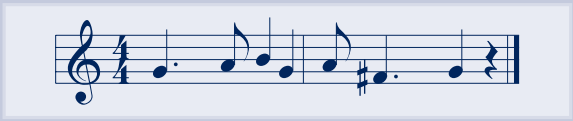
Āta whakarongo. Kia mutu tō whakarongo, me waiata pērā mai koe.

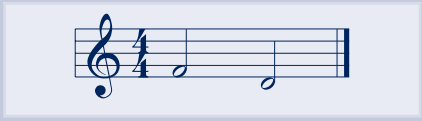
Me waiata "tū tū" mai koe ki ia toi puoro.

E whitu ngā kīanga. Me tīmata ināianei.

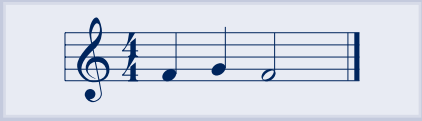
Discontinue the task if the student clearly indicates the wish to stop at any point.

Example

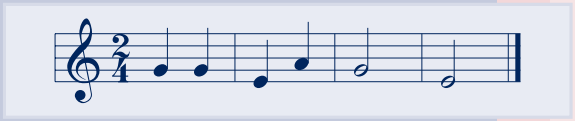




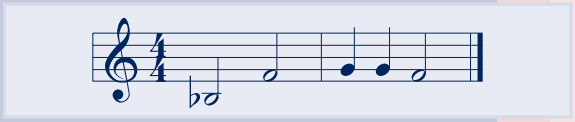
		% responses GEd	MI
1. **tune**	mostly or always in tune	53	51
	in tune about half the time	5	10
	other	42	39
rhythm	rhythm correct	85	80



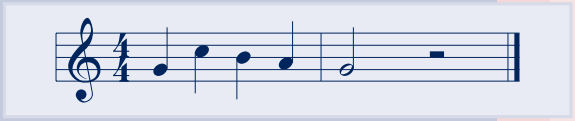
2. **tune**	mostly or always in tune	54	73
	in tune about half the time	12	15
	other	34	12
rhythm	rhythm correct	92	85



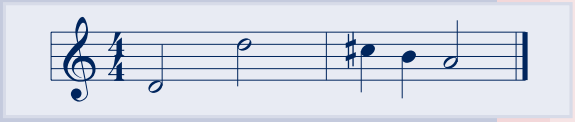
		% responses GEd	MI
3. **tune**	mostly or always in tune	56	73
	in tune about half the time	12	17
	other	32	10
rhythm	rhythm correct	92	93



4. **tune**	mostly or always in tune	52	63
	in tune about half the time	19	15
	other	29	22
rhythm	rhythm correct	86	83



5. **tune**	mostly or always in tune	40	61
	in tune about half the time	22	15
	other	38	24
rhythm	rhythm correct	86	71



6. **tune**	mostly or always in tune	38	39
	in tune about half the time	13	32
	other	49	29
rhythm	rhythm correct	85	73

Commentary:

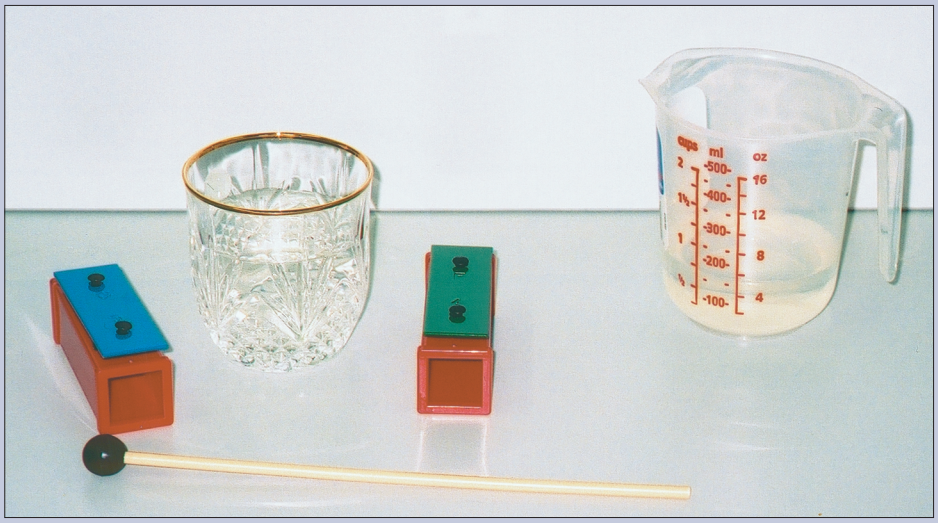
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Puoro Wai — Water Music

Approach: One to one

Focus: Adjusting water level in a glass to try to match pitch of a chime bar.

Resources: Water bottle, jug of water, F chime bar, G chime bar, beater, crystal glass tumbler.



Question/instructions:

Place chime bars F and G and beater in front of student.

When you hit chime bars they make a sound. These two chime bars make different sounds. Play them now so that you can hear the sounds they make.

Ka patupatu papa pere koe, ka rongohia he oro. He rerekē ngā oro o ēnei papa pere [chime]. Pātōtōtia ināianei kia rongo ai koe i ngā oro.

After student has played each chime bar, place glass tumbler and jug of water in front of student.

When you tip water into a glass and hit the side of the glass, it makes a sound. You can change the sound by changing the amount of water in the glass.

Ki te tāringi wai koe ki roto i te ipu wai, ka pātōtō [tap] i te taha, ka rongo koe i te oro. Ka taea tō whakarerekē i te oro mā te whakaiti, te whakarahi ake rānei i te wai o roto i te ipu.

Temporarily remove the F chime bar from the student.

In this activity you are going to tip water into the glass to make a sound. First, try to make the same sound as you hear when you play the G chime bar. When you are putting water into the glass you will need to keep checking the sound by hitting the side of the glass AND the chime bar. If you think there is too much water in the glass you can tip some back into the jug. When you think they are both making the same sound, tell me.

Mō tēnei mahi ka tāringi wai koe ki roto i te ipu wai hei whakatangi oro. I te tuatahi, me whakamātau ki te whakaōrite i te oro ka rongohia e koe, inā, pātōtōtia te papa pere G. I a koe e tāringi wai ana ki roto i te ipu wai, me whakarite haere tonu i te oro mai i te ipu wai ME te papa pere. Mehemea he nui rawa te wai o te ipu wai, me tāringi tētahi wāhi ki roto i te tiaka. Kōrero mai, inā, ōrite aua oro.

Student attempts to make chimebar G sound with the water in the glass.

		% responses GEd	MI
Matching the G	very close	8	5
	moderately close	21	20
	moves in right direction	41	35
	no useful progress	30	40

When completed, remove chime bar G and replace with chime bar F.

Tip water back into jug.

Now see if you can make the same sound as the F chime bar. Tell me when you think the glass and the chime bar are making the same sound.

Ka taea anō e koe te whakaōrite ki te oro o te papa pere F. Kia mōhio koe, kua ōrite te oro o te wai ipu me te papa pere, kōrero mai.

Student attempts to make the F sound with the water in the glass.

Matching the F	very close	12	5
	moderately close	14	19
	moves in the right direction	41	52
	no useful progess	33	24

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Mai i te Piki Haumarangai ki te Heke Haumaru — High to Low

Approach: Station
Focus: Identifying upward or onward pitch movements or trends.
Resources: Video recording on laptop computer.

Questions/instructions:

SECTION 1

The first section asked students to listen to two notes, chords, and musical phrases and identify whether the second was higher, the same, or lower in pitch than the first. After an example with answer given, six assessment items followed.

This activity is done on the computer.

Kei runga tēnei mahi i te rorohiko.

Draw a ring around the words to show your answers.

Porohitangia ngā kupu hei whakaatu i ō whakautu.

1.	piki	heke	ōrite
2.	piki	heke	ōrite
3.	piki	heke	ōrite
4.	piki	heke	ōrite
5.	piki	heke	ōrite
6.	piki	heke	ōrite
7.	piki	heke	ōrite

		% responses GEd	% responses MI
1. Example			
2.	higher	71	49
3.	same	84	60
4.	lower	61	26
5.	same	84	58
6.	lower	80	70
7.	higher	45	60
SECTION 1 TOTAL:	5–6	57	28
	3–4	26	42
	1–2	16	25
	0	1	5

1.	runga	raro	ōrite
2.	runga	raro	ōrite
3.	runga	raro	ōrite
4.	runga	raro	ōrite
5.	runga	raro	ōrite
6.	runga	raro	ōrite
7.	runga	raro	ōrite

SECTION 2

The second section asked students to identify whether the sequences of notes in some musical phrases were moving up in pitch, staying the same, or moving down in pitch. An example with answer given was followed by six assessment items

1.			
2.			
3.			
4.	up	down	same
5.	up	down	same
6.	up	down	same
7.	up	down	same

		% responses GEd	% responses MI
1. Example			
2.	up	68	49
3.	down	71	58
4.	same	73	60
5.	up	80	70
6.	same	76	53
7.	down	67	51
SECTION 2 TOTAL:	5–6	57	39
	3–4	23	21
	1–2	19	26
	0	1	14

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings. This task required knowledge of music notation.

Ngā Ūngeri — Rhythms

Approach: Station

Focus: Identifying which rhythmic pattern is different in a set of three, two the same and one different.

Resources: Computer program on laptop computer.

Questions/instructions:

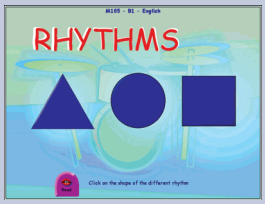
This activity is done on the computer.

Kei runga tēnei mahi i te rorohiko.

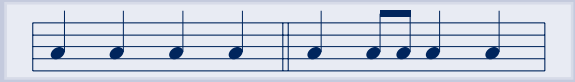
1. Click on the button that says ***Rhythms*** to begin the task. The computer will then tell you what to do. If it doesn't, tell the teacher.

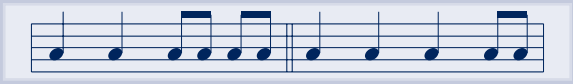
   Pāwhiria te tohu kiore ki ***Ngā Ūngeri*** kia tīmata ai tēnei mahi. Mā te rorohiko e tohutohu me aha koe. Ki te kore, kōrerohia atu ki te kaiako.

Students were asked to listen to sets of three rhythm patterns, each pattern identified on the computer screen by a geometric symbol, and then to click on the symbol for the unique rhythm pattern.



Example





		% responses GEd	MI
1.	symbol 3	73	58
2.	symbol 1	52	58
3.	symbol 2	74	78
4.	symbol 3	69	62
5.	symbol 2	53	46
Total score:	4–5	46	44
	2–3	48	36
	0–1	6	20

Commentary

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Tūmomo Puoro — Music In Style

Approach: Station

Focus: Identifying whether musical extracts would be classified as jazz, classical, country, rap, rock or folk music.

Resources: Computer program on laptop computer.

Questions/instructions:

This activity is done on the computer.

Kei runga tēnei mahi i te rorohiko.

Click on the button that says ***Music In Style*** to begin the task. The computer will then tell you what to do. If it doesn't, tell the teacher.

Pāwhiria te tohu kiore ki ***Tūmomo Puoro*** kia tīmata ai tēnei mahi. Mā te rorohiko e tohutohu me aha koe. Ki te kore, kōrerohia atu ki te kaiako.

Students were asked to listen to musical extracts and classify them as jazz, classical, country, rap, rock, or folk music. They responded by clicking the button with the appropriate label.

	example: jazz	% responses GEd	MI
1.	rap	96	88
2.	classical	70	62
3.	jazz	61	48
4.	country	81	94
5.	folk	51	38
6.	rock	81	90
7.	rap	98	94
8.	classical	70	66
9.	rock	81	78
10.	country	75	82
11.	folk	39	42

		% responses GEd	MI
Total score:	11	12	4
	9–10	34	40
	7–8	29	34
	5–6	23	16
	3–4	2	6
	0–2	0	0

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Patua te Patu — Beat the Beat

Approach: One to one

Focus: Identifying a beat in a piece of music and hitting a drum in time with it.

Resources: Drum, beater, video recording on a laptop computer.

Questions/instructions:

In this activity you will be playing the drum to the beat of some music. Let's watch the video. It will tell you what to do.

Mō tēnei mahi, kei te patu koe i tētahi pahū, ki te patu o ētahi puoro. Mātakiria te ataata. Mā te ataata e whakaatu me aha koe.

Ensure that the drum is visible to camera — the view is not obstructed by the computer screen. Click the *Play* button to start the video.

The video shows a student identifying the beat in a musical example and hitting a drum in time with it. Subsequently, three pieces of music are played and the student is asked to hit the drum in time with a beat in each piece.

		% responses GEd	MI
1. "Dharpa Tree"' *from Yothu Yindi's "Tribal Voice"*			
establishing a steady beat:	achieved quickly	44	85
	eventually achieved	33	10
	not achieved	23	8
did beat fit with music?	yes	71	84
	no	29	16
2. "Soulflower" *from Emma Paki, "Tribal Stomp"*			
establishing a steady beat:	achieved quickly	39	47
	eventually achieved	27	37
	not achieved	34	16
did beat fit with music?	yes	62	76
	no	38	24
3. "Spring" *from Vivaldi's "Four Seasons"*			
establishing a steady beat:	achieved quickly	21	26
	eventually achieved	18	27
	not achieved	61	47
did beat fit with music?	yes	35	47
	no	65	53

Commentary:

Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. MI students were much more successful with the first piece of music, and a little more successful with the other two pieces.

Pupuhi Kape Pao — Blow Pluck Hit

Approach: Station

Focus: Identifying, by listening to musical performances, whether the sole instrument was played by blowing, plucking, or hitting.

Resources: Computer program on a laptop computer.

Questions/instructions:

This activity is done on the computer.

Kei runga tēnei mahi i te rorohiko.

Click on the button that says ***Blow Pluck Hit*** to begin the task. The computer will then tell you what to do. If it doesn't, tell the teacher.

Pāwhiria te pātene e kī ana ***Pupuhi Kape Pao***, kia tīmata ai te mahi. Mā te rorohiko e tohutohu me aha koe. Ki te kore, kōrerohia atu ki te kaiako.

Students were asked to listen to a piece of music being played on a instrument or cluster of related instruments. In each case, they were to indicate whether the instrument was played by blowing, plucking, or hitting. They clicked on their chosen option.

		% responses GEd	MI
1. Qin – China	pluck	99	71
2. Gamelon gongs – Phillipines	hit	97	81
3. Aruding – Phillipines	pluck	71	79
4. Shakuhachi – Japan	blow	99	81
5. Steel band – Trinidad	hit	84	48
6. Rihe panpipes – Soloman Islands	blow	97	88
Total score:	6	61	31
	5	32	31
	3–4	6	24
	0–2	1	14

Commentary:

Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. MI students were much more successful with the first piece of music, and a little more successful with the other two pieces.

Ngā Toi Puoro e Rua — Two Pieces

Approach: One to one

Focus: Discussing the features of two pieces of music and indicating personal response to the music.

Resources: Audio recording on laptop computer.

Questions/instructions:

In this activity we are going to listen to two different pieces of music. After each one, I'm going to ask you to tell me about the music.

E whakarongo ana tāua ki ngā puoro rerekē e rua. Kia mutu ia puoro, ka hōmai ōu whakaaro mō aua puoro.

Click the *Play* button to start the video. Listen to song one.

Click the *Pause* button.

1. That piece was called *Yellow Submarine*. Try to describe the music to me. Tell me about things like the kinds of sounds, the instruments, rhythms and anything else you noticed.

   Ko te *Waka Ruku Kōwhai* tēnā waiata. Hōmai he kōrero mō taua waiata.He aha ngā momo oro, ngā whakatangitangi, ngā ūngeri me ētahi atu mea i rongo koe?

2. Tell me some things about the music that you thought were specially interesting.

   Kōrerohia mai, ōu whakaaro mō ngā mea whakamere [interesting] o te puoro.

		% responses GEd	MI
discussion of instrumentation	strong	10	14
	moderate	36	49
	weak	46	29
	absent	8	8
discussion of rhythmic elements	strong	1	2
	moderate	11	8
	weak	23	35
	absent	65	55
discussion of dynamics/orchestration	strong	5	0
	moderate	20	16
	weak	30	19
	absent	45	65
indications of personal response/engagement			
	strong	1	0
	moderate	29	17
	weak	36	37
	absent	34	46
overall evidence of ability to discuss music			
	strong	0	2
	quite strong	15	18
	moderate	34	23
	weak	51	57

Now let's listen to the second piece.

Whakarongo ki te waiata tuarua.

Click the *Play* button and listen to song 2.

3. That piece was called *Te Papa*. Try to describe the music to me. Tell me about things like the kinds of sounds, the instruments, rhythms and anything else you noticed.

   Ko *Te Papa* tēnā waiata. Hōmai he kōrero mō taua waiata. He aha ngā momo oro, ngā whakatangitangi, ngā ūngeri me ētahi atu mea i rongo koe?

4. Tell me some things about the piece that you thought were specially interesting.

   Kōrerohia mai, ōu whakaaro mō ngā mea whakamere o te puoro.

		% responses GEd	MI
discussion of instrumentation	strong	7	13
	moderate	45	50
	weak	42	33
	absent	6	4
discussion of rhythmic elements	strong	2	2
	moderate	14	10
	weak	20	23
	absent	64	65
discussion of dynamics/orchestration	strong	0	2
	moderate	11	15
	weak	32	14
	absent	57	69
indications of personal response/engagement			
	strong	6	0
	moderate	27	27
	weak	38	33
	absent	29	40
overall evidence of ability to discuss music			
	strong	2	6
	quite strong	13	15
	moderate	40	27
	weak	45	52

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Music Link Tasks 5, 6, 8, 9, 10

LINK TASK 5

Approach: One to one
Focus: Clapping rhythmic patterns.
Resources: Video recording on laptop computer.

		% responses GEd	% responses MI
Total score:	22–24	16	17
	18–21	49	60
	12–17	34	23
	6–11	1	0
	0–5	0	0

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 6

Approach: One to one
Focus: Making up a rhythmic pattern to fit with a beat.
Resources: Woodblock, beater, video recording on a laptop computer.

		% responses GEd	% responses MI
Total score:	3	64	71
	2	19	17
	1	16	6
	0	1	6

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 8

Approach: Station
Focus: Match music notation to sounds.
Resources: Program on laptop computer.

		% responses GEd	% responses MI
Total score:	4	25	31
	3	40	19
	2	23	29
	1	12	19
	0	0	2

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 9

Approach: Station
Focus: Matching rhythmic pattern with musical notation.
Resources: Program on laptop computer.

		% responses GEd	% responses MI
Total score:	6–7	20	5
	5	16	14
	4	21	24
	3	22	24
	2	17	14
	0–1	4	5

Commentary:
Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings. This task required knowledge of music notation.

LINK TASK 10

Approach: Station
Focus: Identifying which of three tunes is different.
Resources: Program on laptop computer.

		% responses GEd	% responses MI
Total score:	4	14	14
	3	26	35
	2	37	35
	1	22	12
	0	1	4

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Technology is a creative, purposeful activity aimed at meeting needs and opportunities through the development of products, systems or environments. Knowledge, skills and resources are combined to help solve practical problems in particular social contexts.

Technology is a multi-disciplinary activity. To attempt to represent all or even most of the areas, meanings and applications of technology within the national monitoring assessment programme would be unrealistic. After careful examination of the scope of the technology curriculum, it was decided to assess some key aspects. Selected areas of content and broadly overlapping contexts (e.g. personal, home, school, community) were used to investigate the ideas student have and the processes they can use.

This chapter reports the results of seventeen technology tasks administered to individual Māori students in both general education settings and Māori immersion settings. The tasks address the three strands of the technology curriculum: technological knowledge and understanding, technological capability, and technology and society.

Eight tasks were administered in a videotaped one-to-one interview format and nine were attempted in a station or independent format (where students worked independently to develop a design, assemble a product, or record written responses to questions).

National monitoring results are reported task by task so that results can be understood in relation to what the students were asked to do. To allow comparisons of performance between the 2000 and 2004 assessments, however, five of the seventeen tasks have been designated link tasks. Student performance data on these tasks are presented in this report, but the tasks are described only in general terms because they will be used again in 2004.

Māori students in general education and Māori students in Māori immersion settings performed equally well on nine tasks. Students in immersion programmes scored statistically significantly higher on two tasks and Māori students in general education scored statistically significantly higher on six tasks. These comparisons must be interpreted with considerable caution, for the reasons discussed in Chapter 2.

He Pūrere Wheowheo — Buzzer

Approach: One to one

Focus: Using an electrical circuit for a particular purpose.

Resources: Floor plan of house, red pencil, battery, 4 wires with crocodile clips, switch, buzzer.

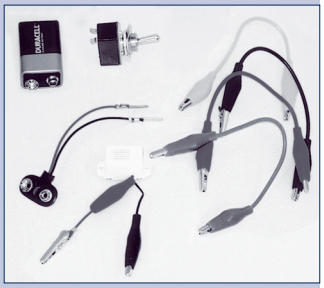
Questions/instructions:

Imagine that someone in your family is sick in bed. They feel too sick to call out when they want something. You decide to make it possible for them to call you when they want something by using an electrical buzzer.

Here is some equipment for making a buzzer that works.

Pōhewatia, kei te moenga tētahi o tōu whānau e māuiui ana. Nā te kaha o te māuiui, kāore e taea e ia te karanga atu, he aha tōna pīrangi. Ka whakaaro koe, ka hangaia e koe tētahi pūrere wheowheo kia taea e ia te whakatangi atu ki a koe.

Anei ētahi taputapu hei hanga pūrere wheowheo.



Show equipment and name each component as you lay it out on the table.

1. Before you have a go with this equipment, try to describe to me how you would connect the equipment together to make the buzzer go.

   I mua i tō whakamātau, whakamāramahia mai me pēwhea te honoi ngā taputapu kia tangi mai te pūrere wheowheo.

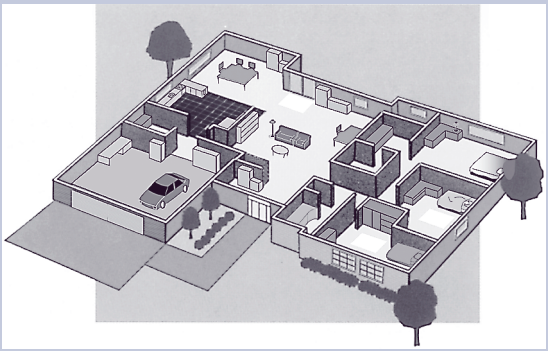
Student explains.

2. Now you can have a go at making the buzzer go. You will need to use all of the pieces of wire. If you get stuck I can help you.

   Me mahi koeināianei. Ki te raru koe, kei konei ahau hei āwhina.

Allow time.

		% responses GEd	MI
	made buzzer sound	90	76
Help needed:	none	26	8
	some clues	36	35
	detailed verbal instructions	5	16
	hands-on help	33	41



Show student house plan.

Here is a plan of the house where the family lives. This is the sick person's bedroom [room with person in bed], and here is the living room where most of the family will be.

Anei he hoahoa whare o te whānau. Anei te rūma moe o te tangata e māuiui ana (he tangata i te moenga i tētahi rūma). Anei te rūma noho, kei konei te nuinga o te whānau.

3. Think about how you would set up the buzzer so that it would help the sick person in this house. Draw your ideas on this house plan, and show the main parts of the system you would make. As you are drawing, tell me what you are doing and why.

   Me whakaaro koe me pēwhea te whakatū o te pūrere wheowheo kia āwhinatia ai te tangata māuiui i tēnei whare. Tāngia ōu whakaaro ki runga i tēnei hoahoa whare. Whakaatu mai i ngā wāhanga motuhake o tōu pūrere wheowheo. I a koe e tā ana, whakamāramahia mai kei te aha koe, ā, nā te aha i tā pērā ai koe.

Give plan and red pencil to student.
Prompt for explanation if necessary.

		% responses GEd	MI
Features of plan:	switch in bedroom	88	82
	switch accessible to person in bed	86	80
	buzzer in place to be heard	82	88
	battery or identifiable power source in circuit	47	35
	wire(s) running from switch/battery to buzzer	79	82
	two wires shown *(to complete circuit)*	22	12
Total score:	9–10	18	4
	7–8	41	22
	5–6	17	53
	3–4	22	15
	0–2	2	6

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

Te Āhua o te Karetao — Puppet Makeup

Approach: One to one

Focus: Investigating and describing how a hand puppet has been designed and assembled.

Resources: Parrot hand puppet.

Questions/instructions:

Here is a puppet that someone has made.
Have a good look at it to see how it has been made.

Anei he karetao kua hangaia e tētahi atu.
Āta titiro i pēheatia te hanga.

Give the puppet to the student. Encourage them to have a good look at it and how it has been made, without suggesting any clues.

Now I would like you to explain to me how somebody went about making this.
Try to describe all of the things they would do — starting from before they actually began to make the puppet — then the things they did as they were making it.

Nā, whakamāramatia mai i pēheatia te hanga i tēnei mea, e tētahi atu. Kōrerotia mai ngā āhuatanga katoa e pā ana ki te hanga karetao. Me tīmata ki ngā whakaritenga i mua i te hanga, ā, ka kōrero mō ngā mahi i te wā e hanga ana te karetao.

	% responses GEd	MI
mentioned conceiving idea/mental image	21	10
mentioned developing or finding appropriate pattern	28	15
Selection of materials		
mentioned required materials: 7 or more	32	14
4–6	51	62
1–3	16	22
did not mention materials	1	2
discussed important characteristics of materials; other than colour	22	21
Preparing components to fit design *cutting, shaping, painting*		
detailed description: all steps	0	2
some steps	19	15
some basic detail	30	21
vague outline	39	22
other	12	40
Joining components		
detailed full description	4	7
covered some steps, omitted others	16	17
some basic detail	38	28
vague outline	35	22
other	7	26
mentioned hinging for mouth mechanism	17	25
Total score: 11–15	7	7
8–10	27	15
5–7	38	35
0–4	28	43

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

He Tukinati — Nut Cracker

Approach: One to one

Focus: Describe the features of two different nutcrackers and evaluating them.

Resources: 2 nut crackers, bag of walnuts.

Questions/instructions:

In this activity you will be investigating how a nut cracker works and finding out how useful it is.

I tēnei mahi ka tūhura koe, ka pēhea rā te tukinati e mahi i tāna mahi, ā, me tō rangahau hoki i tōna whāinga pai.

1. Try to crack open the shell of this nut using only your hands. How did your hands feel trying to crack the nut shell open?

   Me tahuri [try/ tarai] koe ki te tuki i te anga o tēnei nati mā ōu ringaringa anake. I pēhea te rongo o ōu ringaringa i a koe e tahuri ana ki te tuki i te nati kia huaki?

Give student the metal nut cracker.

2. Have you ever used one of these?

   Kua whakamahi anō koe i tēnei?

	% responses GEd	MI
yes	28	41

3. Put the nut in the nut cracker and try to crack the shell open. How did your hands feel using this nut cracker?

   Kuhuna atu te nati, ā, ka tahuri ai ki te tuki, kia huaki mai te anga. I pēhea oū ringaringa, i a koe e whakamahi ana i te tukinati?

4. How useful do you think the nut cracker is? Why?

   Pēhea rawa te whāipainga o te tukinati? He aha ai?

		% responses GEd	MI
Responses to 3 & 4	it cracks nut	57	38
	it's easy to use *(doesn't hurt hand)*	33	30
	it's easy to control amount of cracking	1	0

Give student the wooden nut cracker.

5. Have you ever used one of these?

   Kua whakamahi anō koe i tēnei?

	% responses GEd	MI
yes	7	14

6. Now try to crack the shell with this nut cracker. How do your hands feel using this nut cracker?

   Kuhuna atu te nati, ā, ka tahuri ai ki te tuki, kia huaki mai te anga. I pēhea oū ringaringa, i a koe e whakamahi ana i te tukinati?

7. How useful do you think this nut cracker is? Why?

   Pēhea rawa te whāipainga o te tukinati? He aha ai?

		% responses GEd	MI
Responses to 6 & 7	it cracks nut	26	27
	it's easy to *use (doesn't hurt* hand)	28	32
	it's easy to control amount of cracking	3	0
	fragments are contained	14	8

Continued next page >

He Tukinati — Nut Cracker continued

8. Can you describe the differences between the two nut crackers and how they work?

He aha ngā rerekētanga o te tukinati maitai, me te tukinati rākau, ā, pēhea hoki te whakamahi i ia tukinati?

	% responses GEd	MI
different material *(metal vs. wood)*	24	3
different visual design	15	3
operating principle *(screw vs. lever)*	80	76

9. Do you think one of these nut crackers is better than the other? Which one?

Ki ōu whakaaro, he pai kē atu tētahi ki tētahi? Ko tēhea te mea pai?

Choice: wooden	57	55
metal	32	34
none	11	11
Why? He aha ai?		
Explanation: strong justification	3	3
moderate justification	48	33
limited justification	40	45
no justification	9	19

10. Why do you think we have different types of nut crackers?

Ki ōu whakaaro he aha te take i whiwhi ai tātou i ētahi momo tukinati rerekē?

different consumer preferences, resources	70	44
inventors come up with new ideas	15	0
companies, individuals competing for market share	1	0

11. What do you think people in the future might use to crack open nuts?

Ā ngā rā e heke mai ana, he aha rā te mea ka whakamahia e te tangata hei huaki nati? [not marked]

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings. The most substantial differences occurred in the explanations.

He Kete Pine — Peg Basket

Approach: Independent

Focus: Explaining design features of a plastic peg basket.

Resources: Plan, peg basket kitset, pegs.

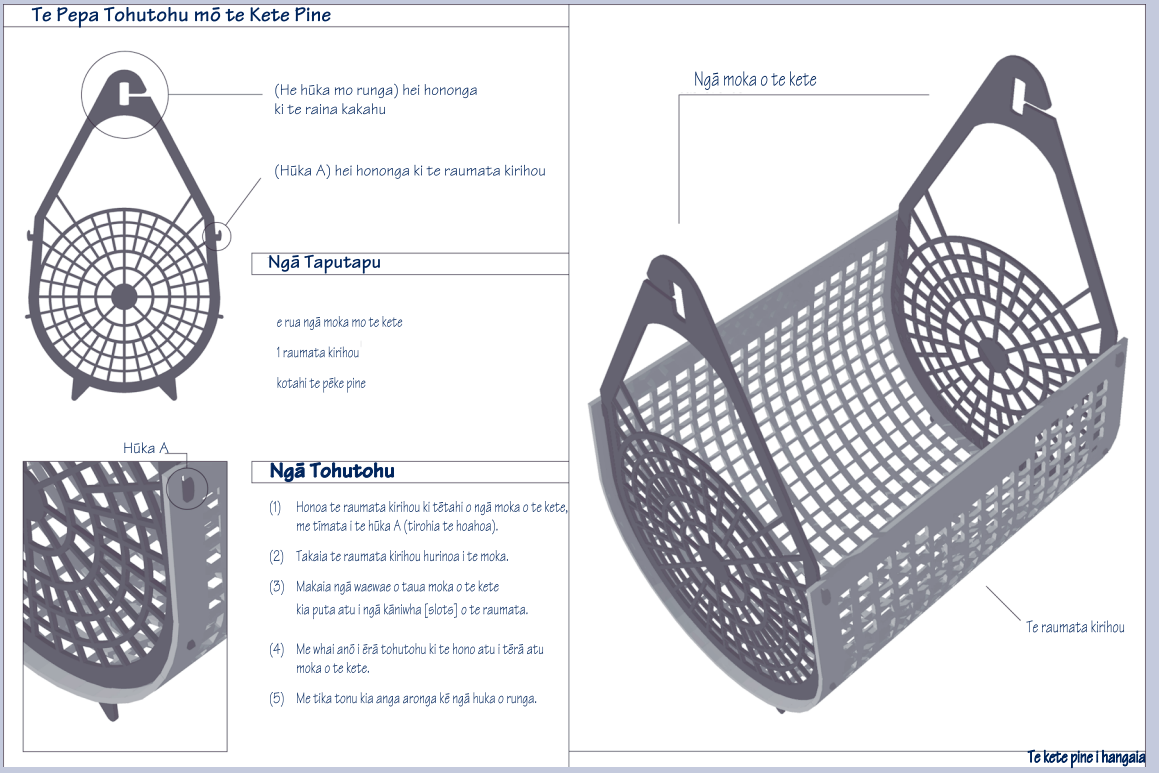
Questions/instructions:

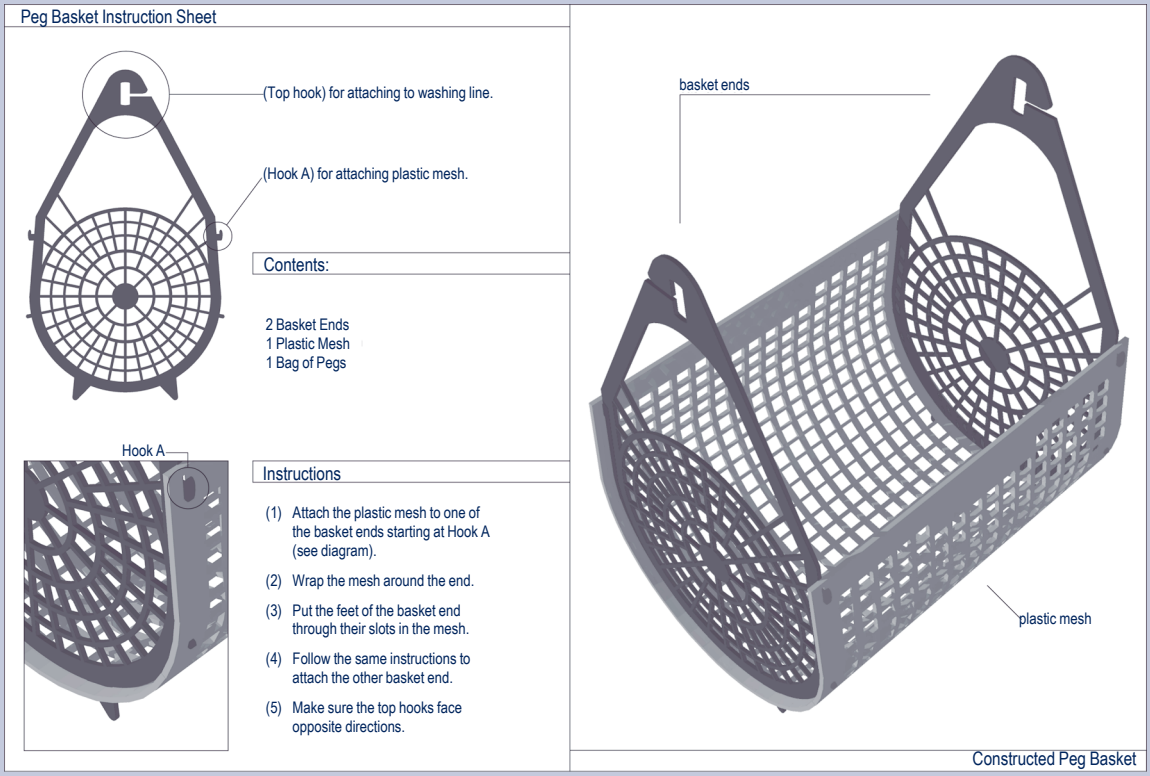
Make up the peg basket so that it looks like the plan. Ask the teacher if you need help. Think about why the basket has been designed like this.

Mahia he kete pine kia rite ki te hoahoa. Ki te hiahia āwhina koe me pātai ki te kaiako. Whakaarohia te take i hangaia ai te kete kia pēnei.

Write answers to the questions. Tuhia ngā whakautu ki ngā pātai.	% responses GEd	MI
Why has plastic mesh with holes been used? Nā te aha i whakamahia ai te kirihou mata pūareare [small holes/mesh]?		
mesh lets rain/water air through	60	50
plastic doesn't rust	3	5
plastic is flexible	5	7
Why do the top hooks go opposite ways? Nā te aha i tohu aronga kē ai [opposite ways] ngā huka?		
less likely that basket will fall off line	53	59
Why does the basket have legs? He aha i whai waewae ai te kete?		
can sit well on ground or table	93	84
Why is it brightly coloured? He aha i pīataata [brightly coloured] ai te tae?		
attractive, highly visible	80	84
Why isn't the basket made up before it is sold in the shop? He aha te take kāore i hangaia te kete, i mua i te hokonga e te toa?		
package takes less space/packaging	48	39
reduce labour/manufacturing costs	3	9
reduce shipping costs	3	0
less damage in transit	20	14
Why is the basket rounded? He aha i hanga porowhita ai te kete?		
easier to assemble	3	18
easier to use	16	20
looks attractive	3	5
fewer corners to damage clothes	1	0
Total score: more than 6	3	0
5–6	37	39
3–4	44	43
0–2	16	18

He Kete Pine — Peg Basket





Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Ngā Whakatūpatotanga — Taking Care

Approach: Station
Focus: Safety rules when using equipment.
Resources: 3 pictures.

Questions/instructions:

Look at each picture. Think about safety rules.

Titiro ki ia pikitia. Whakaarohia ngā ture whakatūpato.

Picture 1. This person is going to use a craft knife.

Whakaaturia te pikitia1:
Ka whakamahi māripi toi tēnei tangata.

1. How can people make sure they don't get hurt when using a craft knife?

   Me aha ngā tāngata, kia kore ai rātou e whara, i a rātou e whakamahi ana i te māripi toi?

	% responses GEd	MI
keep body parts clear of knife	75	50
other valid response	48	35

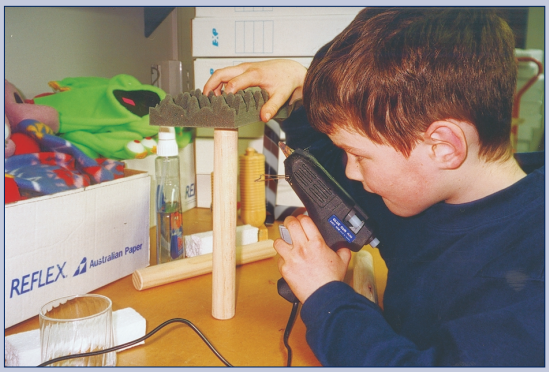
Picture 2. This person is going to boil an egg.

Whakaaturia te pikitia 2:
Ka kōhua hēki tēnei tangata.

2. How can people make sure they don't get hurt when boiling an egg?

   Me aha ngā tāngata, kia kore ai rātou e whara, i a rātou e kōhua ana i te hēki?

	% responses GEd	MI
pot handle away from edge of stove	55	61
other valid response	59	33



Picture 3. This person is going to use a hot glue gun.

Whakaaturia te pikitia 3:
Ka whakamahi pū kāpia wera tēnei tangata.

3. How can people make sure they don't get hurt when using a hot glue gun?

   Me aha ngā tāngata, kia kore ai rātou e whara, i a rātou e whakamahi ana i tētahi pū kāpia wera?

	% responses GEd	MI
keep body away from hot nozzle/glue	62	22
other valid response	54	41
mentioned adult help or supervision for any of these situations	22	30

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings. There were large differences for the craft knife and the glue gun, with much smaller differences for boiling an egg.

Te Pouaka Pea — Bear Box

Approach: Station
Focus: Designing and drawing a box for a teddy bear.
Resources: Teddy bear, pencil, rubber, 30cm ruler, instruction card.

Questions/instructions:

In this activity you are going to draw a plan of a box that would be suitable for this teddy bear.

Show a teddy bear.

The box needs to be suitable for sending the teddy bear in the post to someone.

The teddy bear would be lying flat in the box.

I'll give you an instruction card which tells you what to do. This is what the instructions say ...

Read instruction card to students before handing out the supplies.

Bear Box

Have a good look at the teddy bear. It is going to be posted to someone in a box. Teddy bear would be lying flat in the box.

1. Draw a 3D plan of a rectangular box for the teddy bear.
2. Make the box about the right size for the teddy bear — not too big, and not too small.
3. Write in measurements on your plan to show how long, wide and high it will be.
4. Show how and where the box opens.
5. Show what the box is made from.

Someone else should be able to make this box by using your plan.

I tēnei mahi ka tāngia e koutou tētahi hoahoa o tētahi pouaka pai, mō tēnei teti pea.

Whakaaturia tētahi teti pea.

E tika ana me pai tonu te pouaka hei tuku teti pea ki tētahi atu, mā te pōhi.

Ka takoto papatahi te teti pea i rō pouaka.

Ka hoatuhia he kāri tohutohu hei āwhina i a koutou. Anei ngā tohutohu…

Pānuitia atu te kāri tohutohu ki ngā ākonga, i mua o te tohatoha o ngā taputapu.

Pouaka Pea

Āta titiro ki te teti pea. Kei te tukuna atu i rō pouaka ki tētahi tangata. E takoto papatahi ana a teti pea i rō pouaka.

1. Tāngia he hoahoa ahu 3 o tētahi pouaka tapawhā roa mō te teti pea.
2. Mahia kia rite tonu te rahi o te pouaka mō te teti pea, kaua e rahi rawa, kaua e paku rawa.
3. Tuhia ngā inenga ki runga i a koutou hoahoa kia kitea ai pēhea te roa, te whānui me te teitei.
4. Whakaaturia me pēhea te huaki, ā, kei whea te huakanga.
5. Whakaaturia ngā rauemi hei mahi i te pouaka.

E tika ana, ka taea e tētahi atu te hanga i tēnei pouaka, mā te whai i a koutou hoahoa.

Exemplars next page.

	% responses GEd	MI
Drawing looks like 3-D box:		
drawing shows three faces meeting in one corner of the box	88	91
it looks like an object where all faces are rectangular and meet at right angles	81	79
dotted lines for hidden edges	35	50
non-parallel *(converging)* lines used to create 3D perspective	27	11
Measurements:		
length, width and height	64	60
2 of 3	29	36
1 of 3	2	2
no relevant measurements	5	2
used recognisable units for all measurements	89	58

		% responses GEd	MI
Measurements appropriate for size of teddy bear:	all 3	23	22
	2	48	51
	1	16	18
	0	13	9
clear where box opens		83	73
label showing what box is made from		72	56
diagram shows material has thickness		7	2
plan provided as well as 3D diagram		4	0
plan provided instead of requested 3D diagram		4	0

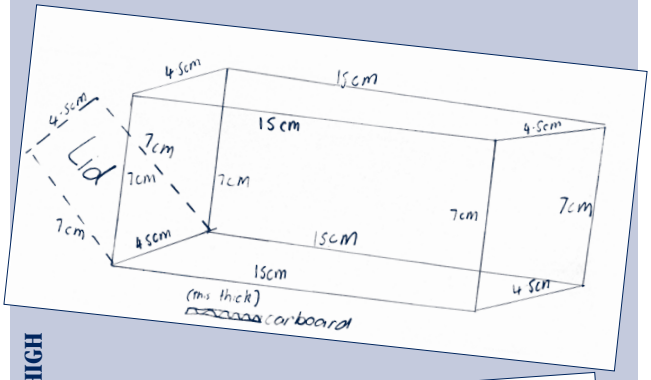
Exemplars next page >

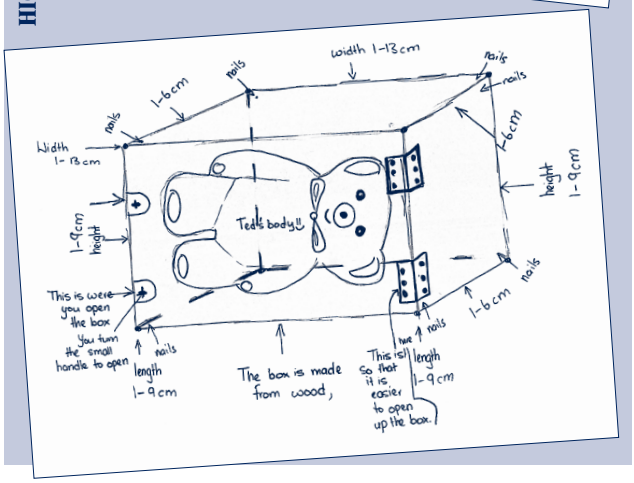
Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Te Pouaka Pea — Bear Box continued

HIGH





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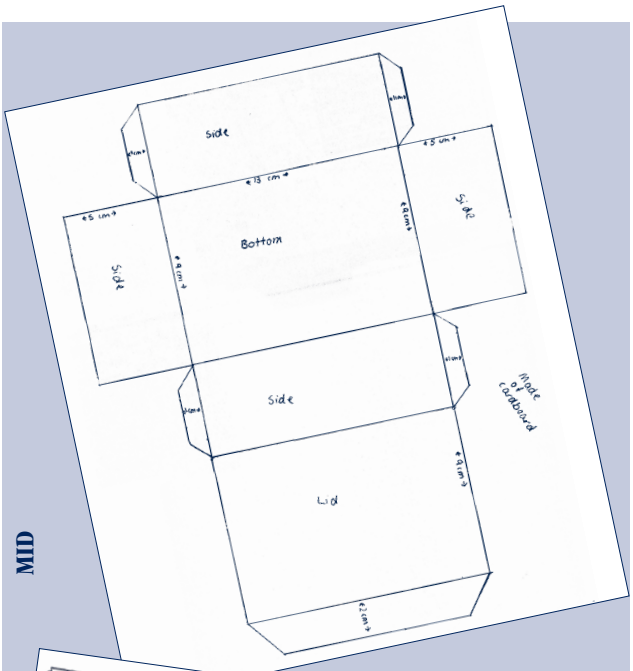


He Mahinga Rōpere

Approach: One to one

Focus: Choice of materials to suit particular purpose.

Resources: 5 types of cover material, 6 types of fastener, sample of frame material, photo, plan of frame.

Questions/instructions

In this activity you will be thinking about the best way to protect a strawberry garden from birds.

Mō tēnei mahi, ka whakaaro ake koe, mō tētahi huarahi pai rawa, hei ārai atu i ngā manu i te māra rōpere.

Here is a picture of a strawberry patch.

Anei tētahi whakaahua mahinga rōpere.

Show student the photo.

1. There is a problem. Birds keep on eating the nice, juicy straw-berries. How do you think the problem could be fixed?

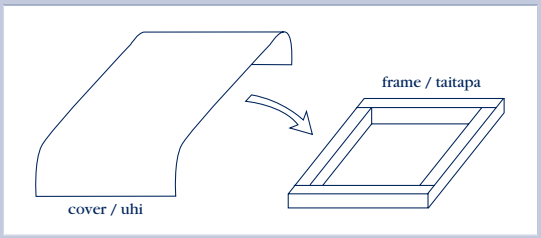
   He raruraru. Kei te kainga tonutia ngā rōpere tino reka nei e ngā manu. Ki ōu whakaaro, me ahatia tēnei raruraru kia tika ai?

Pause for answer.

One idea for fixing the problem is to put a cover on a frame, then put the covered frame over the strawberry patch. Here is a plan of a frame to help you think about that idea.

Ko tētahi whakaaro hei whakatika i tēnei raruraru, kia whakatakoto he uhi ki runga i tētahi taitapa [frame]. Kātahi, ka whakatakoto taua taitapa uhi ki runga i te mahinga rōpere. Anei tētahi hoahoa o tētahi taitapa hei whakaarotanga māu.

Show student the plan.



Here are some materials that could be used for the cover on the frame.

Anei ētahi momo uhi tērā pea, he pai hei uhi taitapa.

Give student the possible covers.

He Mahinga Rōpere — Strawberry Patch

2. Which material do you think is the most suitable one to use? Ki ōu whakaaro ko tēhea te mea pai rawa?	% responses GEd	MI
fine plastic netting, 3cm holes	9	6
black polythene sheet	8	14
windbreak cloth	39	37
plastic netting, 5cm holes	5	0
chicken wire, 1cm holes	39	43

3. Why would that material be the best to use? He aha ai?		
unable to be penetrated by birds size of mesh	80	84
allows sun through	22	28
allows moisture through	19	14
creates good conditions for growth	14	16
easy to work with	2	10

Give student the wood.

The plan shows that the cover needs to be attached to some pieces of wood.

E whakaatu mai ana te hoahoa, me whakamau rawa te uhi, ki ētahi pito rākau.

Give student the fasteners.

Here are some things that could be used to attach the material to the wood.

Anei ētahi mea hei hononga mō te uhi ki ngā rākau.

4. What do you think would be best for attaching the cover to the wood? Ko tēhea te mea pai rawa, hei hononga mō te uhi ki ngā rākau?	% responses GEd	MI
glue	5	2
nails	25	21
PVC insulation tape	1	2
drawing pins	1	0
wire staples	61	67
polypropylene string	7	8

5. How would you use this fastening (or these fastenings) to attach the cover to the wood?

   Me pēhea te whakamahi o tēnei/ēnei taputapu whakamau, hei hononga mō te uhi ki ngā rākau?

6. Explain why you think that would be the best way to attach the net to the wood.

   Whakamāramatia mai nā te aha i kī ai koe koinā te āhuatanga pai rawa atu, hei hononga mō te uhi ki ngā rākau.

responses to 5 & 6 *practicality, durability*		
strong	12	22
moderate	35	49
weak	51	27
none	2	2

Commentary:

Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. The responses to questions 5 and 6 were the main factors in this difference.

Āwhinatia ahau ki te Waruwaru — Help Me Peel

Approach: Station

Focus: Designing equipment for a person with a physical disability.

Resources: Photograph, instruction card, recording sheet.

Āwhinatia ahau ki te Waruwaru

Kei te whakaatu te pikitia nei,
i tētahi tangata e hiahia ana ki te waruwaru rīwai.
He tino uaua ki a ia tēnei, nā te mea kotahi anake tōna ringa hei mahi.
Kua kirikotatia tērā o ōna ringa. plaster cast
Me kimi huarahi kia māmā ake ai te waruwaru rīwai.

1. Tāngia he hoahoa o ōu whakaaro mō tētahi mea hei whakamāmā ake te waruwaru rīwai.
2. Tuhia, ki runga i tō hoahoa he aha i ngāwari ai te waruwaru rīwai.

Help Me Peel

The photo shows a person who's wanting to peel a potato.
It is very hard because the person can only use one hand.
The other hand is in plaster.
This person needs to have a way for making it easier to peel a potato.

1. Draw a plan of your idea for something to make it easier to peel a potato.
2. On your plan, write how your idea makes it easier to peel a potato.

Questions/instructions:

Read the instruction card and draw your plan here.

Pānuitia te kāri tohutohu, kātahi ka tuhi i tō hoahoa [plan] i konei.

		% responses GEd	MI
does plan need second person:	no	82	92
	yes, to help	13	8
	yes, to peel potato	5	0
does plan seem workable:	yes, clearly	25	27
	probably	35	42
	possibly	31	27
	no	9	4
quality of plan/diagram *as a drawing, not judging workability*			
	quite detailed	47	23
	rudimentary	48	58
	none	5	19

		% responses GEd	MI
quality of explanation	quite detailed	49	35
	rudimentary	43	48
	none	8	17
nature of solution			
	way of holding potato still	62	59
	way of holding peeler still	5	6
	machine that can be operated with one hand	14	23
	getting someone else to peel potato	4	0
	getting someone else to help	9	8
	no workable solution	6	4

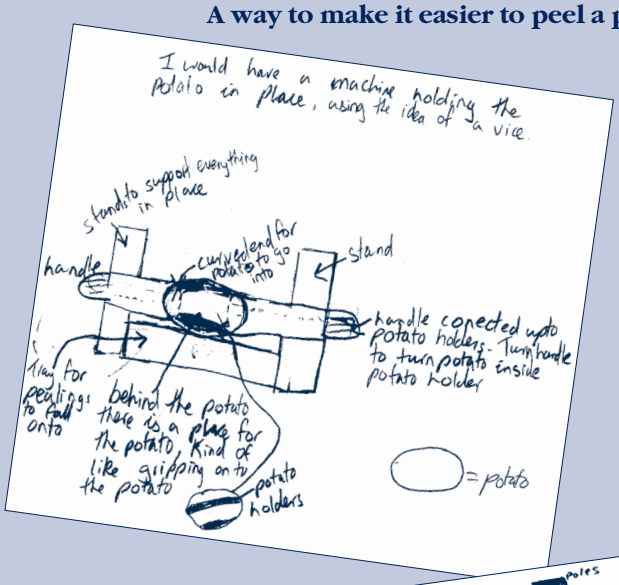
Commentary:

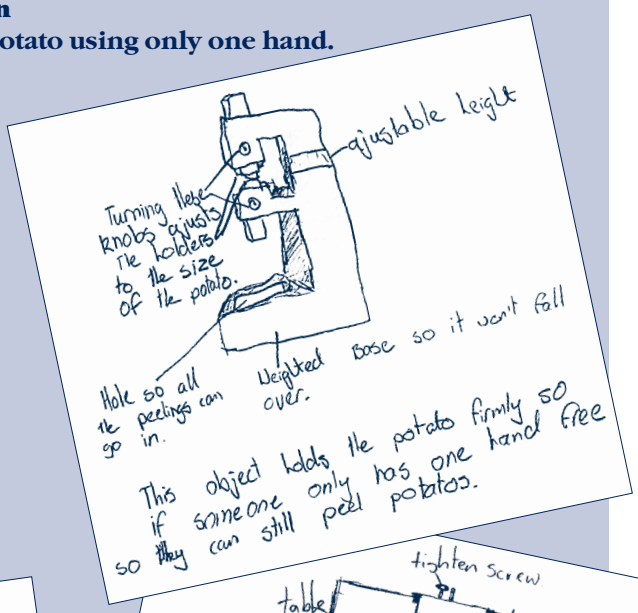
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

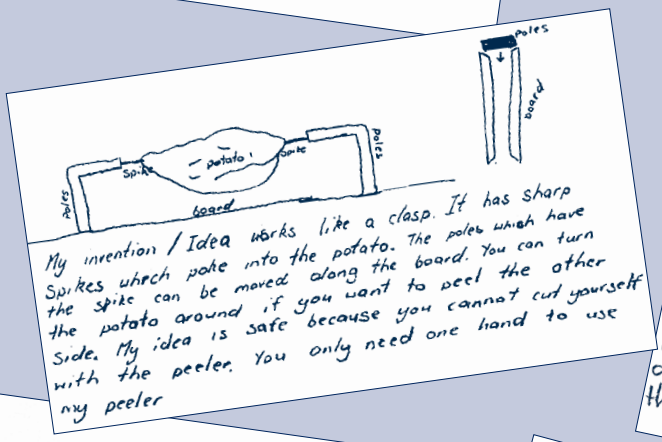
My Plan

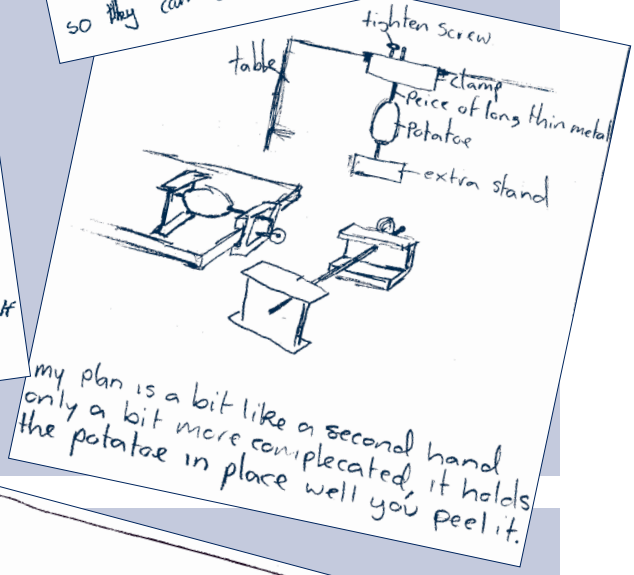
A way to make it easier to peel a potato using only one hand.

HIGH









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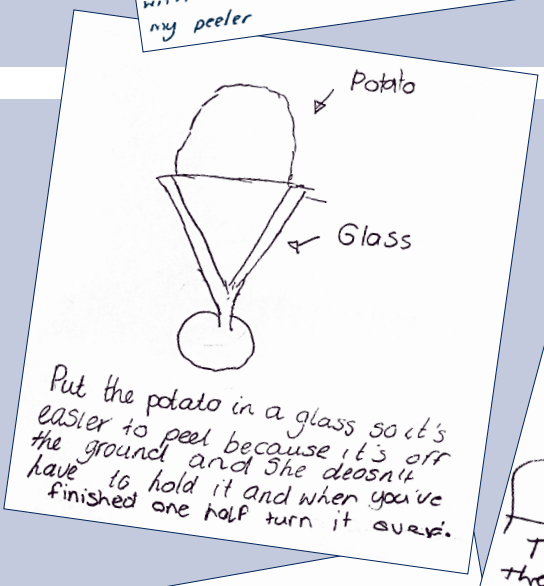
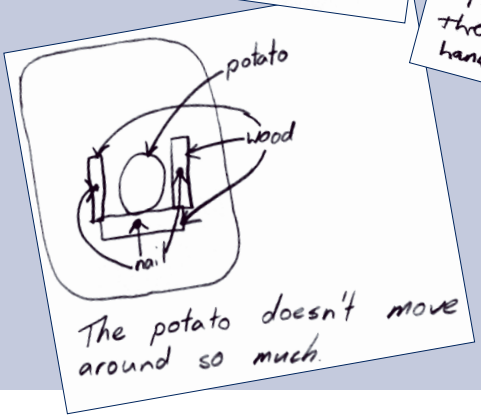
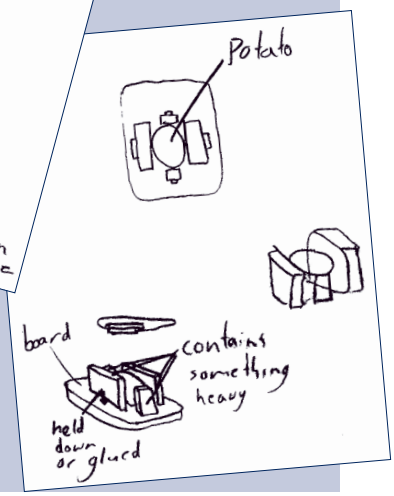






Whakakāngia Ngā Rama — Light the Lights

Approach: Station
Focus: Connecting electrical circuits.
Resources: Board with two switches, battery and bulb; 6 wires with alligator clips.

Questions/instructions:

Read all the instructions before you start doing this task.

In this activity you are to make a switch board work so that the switches light up a light bulb in three different ways. Imagine you are making a switch board to be used for a competition. Each switch is for a different person.

Mō tēnei mahi me hanga koe he papa hiko [switch board] hei whakakā i te pūrama [bulb] mā ngā pana [switch] i ahu mai i ngā ara rerekē e toru. Me whakaaro noa he whakataetae tēnei. Kei te hanga papa hiko koe hei mahi mō tētahi whakataetae. He pana mā ia tangata.

1. Use the wires to join **one** switch to the battery and the light to make the light glow.

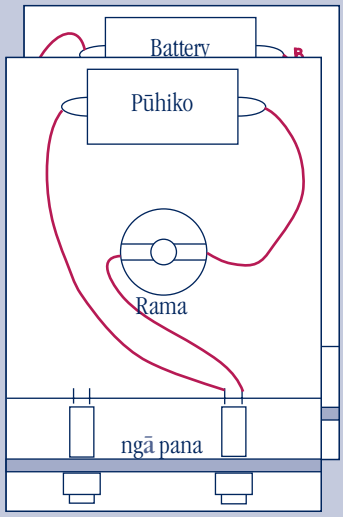
   The light should only glow when you hold down that one switch.

   Whakamahia ngā waea ki te hono i te pana **kotahi** ki te pūhiko me te rama, kia mumura ai [glow].

   Ka mumura te rama inā pēhi iho koe i taua pana kotahi.

2. Draw on the diagram where the wires go. You don't need to draw the clips.
   If you have trouble with the drawing, ask the teacher to help.

   Tāngia ki runga i te hoahoa kei whea ngā waea. Kaua e tāngia ngā rawhi [alligator clips]. Ki te raruraru koe, pātai atu ki te kaiako hei āwhina mōu.



	% responses GEd	MI
wired correctly *battery, light and one switch in service*	35	18

3. In the competition, two people are going to help each other. You need to join the switches to the light so it lights up when one **or** the other switch is pressed.

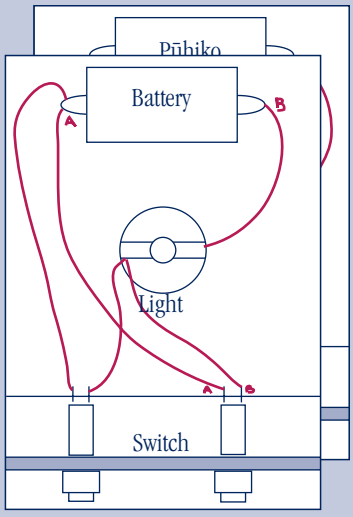
   Mō tēnei mahi, ahakoa te mahi takitahi, ka taea tonu te āwhina tētahi i tētahi. Me hono ngā pana ki te rama, kia kā ai inā ka pēhia te pana **ahakoa ko tēhea.**

   Test your switch board by pressing one switch at a time.
   The light should light up when you press each switch.

   Whakamātauhia tō papa hiko mā te pēhi i ia pana.
   Ko te tikanga ka kā te rama i tō pēhitanga i ia pana.

4. Draw on the diagram where the wires go. You don't need to draw the clips. If you have trouble with the drawing, ask the teacher to help.

   Tāngia ki runga i te hoahoa kei whea ngā waea. Kaua e tāngia ngā rawhi. Ki te raruraru koe pātai atu ki te kaiako hei āwhina i a koe.



	% responses GEd	MI
wired correctly *two switches in parallel, together in series with battery and bulb*	9	2

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

He Whare Mōkai — Pet House

Approach: Independent
Focus: Evaluating a pet house design and designing an improved model.
Resources: Video recording on a laptop computer (see overleaf), paper to record design.

Questions/instructions:

This activity is called Pet House. We'll start by watching a video. After you have seen the video you have some questions to answer in the book I have given you.

Ko te *Whare Mōkai* te ingoa o tēnei mahi. Tīmataria mā te mātaki rīpene ataata. Kia mutu tērā, me whakautua ngā pātai ki roto i te puka tuhi kua hoatungia ki a koutou.

Click the *Play* button to start the video. [Text next page.]

Pāwhiria te pātene *Tīmata* kia whakaaturia te ataata.

1. Why would a cardboard box not be suitable for a permanent home for a guinea pig?

   Nā te aha i kore ai i pai te pouaka kāri mārō, hei kāinga tūturu, mō tētahi mōkai guinea pig?

		% responses GEd	MI
Problems with cardboard material	not strong	17	0
	not weather/waterproof	9	19
	guinea pig can eat it	23	10
	difficult to clean	5	0
Problems with existing design	too small	33	19
	poor ventilation	30	40
	dark, no view	11	4
	no special activity areas (*sleep, recreation*)	11	6

2. You are going to design a pet house that could be built for a guinea pig. Before you start, write down the things you would need to think about so that the pet house will be a good permanent home.

   Ka whakarite hoahoa koutou, hei hanga whare mōkai mō tētahi guinea pig. I mua i tō koutou tīmatanga tuhia ētahi whakaarotanga māu, kia pai ai te tū o tēnei whare mōkai tūturu.

3. Now do a quick drawing of the pet house for the guinea pig. Try to show all of the important parts it would have, and how it is to be made.

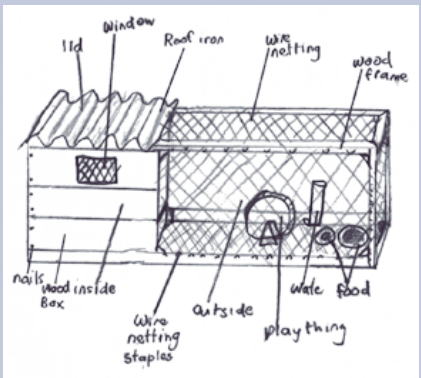
   Kia tere tonu te tā hoahoa mō tētahi whare mōkai poaka. Whakaaturia mai aua wāhanga tino whai tikanga ka whakaurua, me te whakaatu hoki, me pēhea te mahi.

4. Write words on your drawing to help explain your plan.

   Tuhia ngā tapanga me ngā whakamārama ki runga hoahoa

Responses to 2, 3 and 4

		% responses GEd	MI
	adequate ventilation	75	75
	light and view	75	73
	good shelter	67	44
	recreational facilities	47	67
	separate space for separate activities	72	56
	food provided	63	71
	water provided	55	48
	floor covering/bedding	56	19
	entrance/exit/cleaning access	45	50
	adequate size	74	96
	fully enclosed	70	96
Total score:	more than 11	8	2
	10–11	31	23
	8–9	26	33
	6–7	25	29
	4–5	6	11
	2–3	1	2
	0–1	3	0



Video resource and more exemplars on next page >

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

He Whare Mōkai — Pet House continued

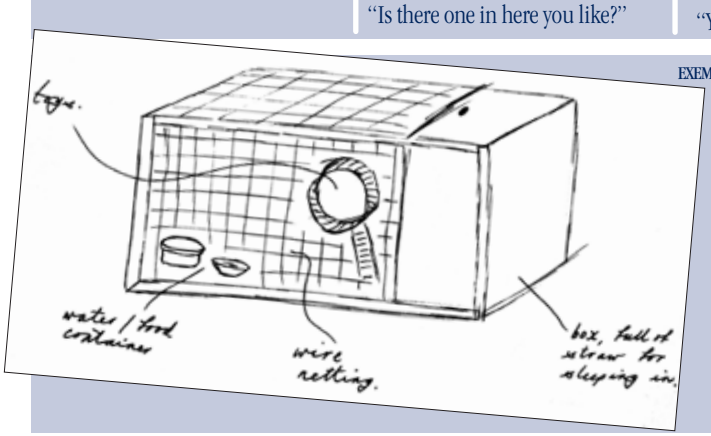
"Good afternoon young man. Can I help you?"
"Hello. Can I please have a guinea pig"

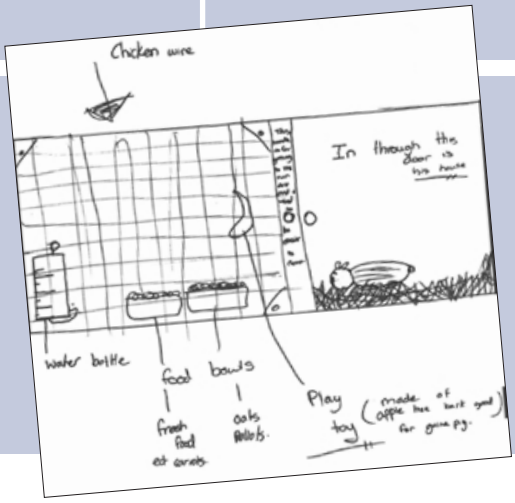
"Certainly. Lets go down here and see if there is one that you like. There should be a box here somewhere. "
"Is there one in here you like?"

"Come here my little man. How's that then?"
"Mind you look after him then, Michael."
"Yes"

"There you are then. Have you got a house for it — a home for it?"
"Mmmm, I'll have to make one."

EXEMPLARS HIGH





He Tūnga Whakaahua — Photo Stand

Approach: Independent

Focus: Following detailed instructions to make a picture stand.

Resources: Per student: pieces of card, masking tape, ruler, 4 paper clips, coloured card, plan, photo, scissors, instruction card.

Questions/instructions:

In this activity you are going to make a photo frame and stand. You will have an instruction card, a plan and some equipment for making the frame and stand.

I tēnei mahi ka hanga koutou i tētahi tāpare [frame] whakaahua me tōna tūnga. Ka whiwhi koutou i ētahi kāri tohutohu, ētahi hoahoa me ētahi taputapu hei hanga tāpare me te tūnga.

Give each student an instruction card, a plan, a set of equipment and a ruler.

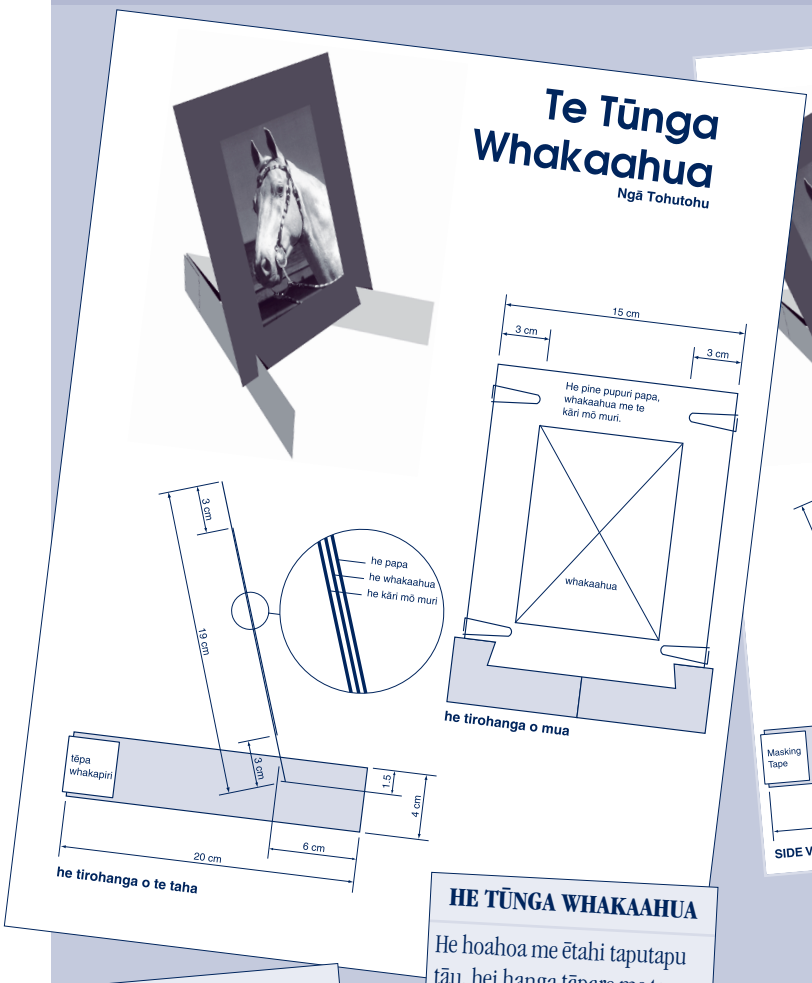
Before you start, look at the instruction card as I read it through to you.

I mua o te tīmatanga, tirohia te kāri tohutohu i āu e pānui ana ki a koutou.

Read instruction card to students.

When you have finished, give your photo frame and stand to me.

Kia mutu ā koutou mahi, hōmai ki ahau ā koutou tāpare whakaahua me ā koutou tūnga.



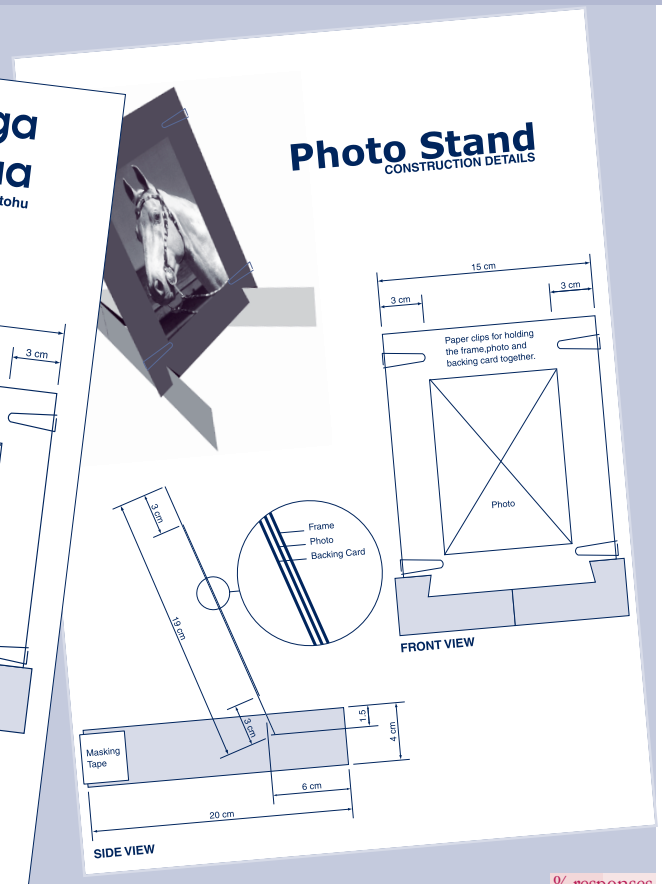


PHOTO STAND

You have a plan and some equipment to make a picture frame and stand.

Make a picture stand exactly as it is shown in the plan. You will need to cut some of the card.

Put the picture in the stand when you have finished.

HE TŪNGA WHAKAAHUA

He hoahoa me ētahi taputapu tāu, hei hanga tāpare me te tūnga whakaahua.

Hāngaia he tūnga whakaahua kia rite tonu ki te hoahoa. Me tapahi i ētahi wāhanga o te pepa mārō.

Kia mutu koe, kuhuna te whakaahua ki roto i te tūnga whakaahua.

EXEMPLAR — HIGH

		% responses GEd	MI
	brown card in place at back	92	100
	picture is centred	91	93
	green card used as frame, not backing	54	63
FRAME:	cut as per diagram	23	19
	errors in width of frame on 1 or 2 sides	8	9
	frame irregular, haphazard	30	35
	missing side or no hole cut	39	37
ASSEMBLY OF PICTURE:	held together as shown	72	53
	held together in some other way	27	42
	not held together	1	5
BASE:	appropriate V shape	90	86
	both sides 20cm ± 1cm	31	23
	side linked as shown	89	74
	slits cut 5–7cm from ends	16	12
	slits cut to appropriate angle	63	65

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Wheketere Poro Rākau — Timber Factory

Approach: One to one
Focus: Understanding value positions: industry and environment.
Resources: Two picture sheets.

Questions/instructions:

New Zealand is a country with a lot of trees. Sometimes the trees are cut down and the logs are sent to other countries. The other countries use the logs to make things. These countries can make a lot of money from the things they make.

Let's imagine a place in New Zealand like the one shown in this picture.

Ko Aotearoa nei tētahi whenua he maha ngā rākau. I ētahi wā ka poroa ngā rākau, ka tukuna ngā poro rākau ki tāwāhi. I ērā whenua ka whakamahia ngā poro rākau hei hanga rawa. He nui te moni ka uru mai ki ēnei whenua mō ngā rawa kua hangaia e rātou.

Whakaarotia tētahi wāhi i Aotearoa ōrite tonu ki te wāhi kei roto i te pikitia.

Show picture sheet 1 (environment).

Logs from trees in big forests near this place are sold to other countries. Some people want to build a factory in this place. The factory would process the wood from the trees before it goes to another country. Here are pictures of what the factory could look like.

Ko ngā poro rākau mai i ngā ngahere tata mai ki tēnei wāhi, ka hokona atu ki tāwāhi. Kei te hiahia ētahi tāngata ki te hanga i tētahi wheketere i tēnei wāhi. Mā te wheketere e mahi i ngā rākau, i mua i te tukuna ki tētahi atu whenua. Anei he pikitia mō te āhua pea o te wheketere.

Show picture sheet 2 (4 factory pictures).

Some people think that having a new factory in the place shown in picture 1 will be really good for the nearby town.

1. What could be some of the good things about having a new factory?
2. What groups of people might think that having a new factory could be good for the town?
3. Why might they think it's a good thing for the town?

Ki ngā whakaaro o ētahi tāngata, he pai mō te tāone tata te whakatū wheketere i te wāhi kua tohua i roto i te pikitia tuatahi.

1. He aha ētahi painga o te wheketere hou?
2. Ko wai mā ngā tāngata ka whakaaro mai, he pai tonu pea te wheketere hou mō te tāone?
3. He aha pea te take ka whakaaro rātou he pai tēnei mea mō te tāone?

Picture sheet 1

Picture sheet 2

		% responses GEd	MI
GOOD THINGS	direct employment	26	73
	indirect employment	47	27
	town more lively, interesting	9	5
Groups in favour			
people who…	hope to work in factory	35	34
	hope to build factory	5	27
	hope to supply or service the factory or its workers	16	12
	think the town will gain financially	11	59
	think town should be more lively	5	5

Other people think that having a new factory near the town would be really bad.

4. What could be some of the bad things about having a new factory in this place?
5. What groups of people might think that having a new factory could be a bad thing?
6. Why might they think it's a bad thing?
7. How could having a new factory affect the area or environment near the town?

Ki ngā whakaaro o ētahi tangata, he kino te whakatū whakatere hou, tata ki te tāone.

4. He aha ētahi o ngā mea kino o te wheketere hou i tēnei wāhi?
5. Ko wai mā ngā tāngata ka whakaaro mai, he kino te wheketere hou?
6. He aha pea te take ka whakaaro rātou, he kino tēnei āhuatanga?
7. Ka pēhea te taiao mēnā he wheketere hou e tata mai ana ki te tāone?

		% responses GEd	MI
BAD THINGS	change natural landscape	41	37
	river/air pollution	86	78
	health damage — people, animals, plants	42	61
	increased traffic	20	7
	noise pollution	25	12
	change community mix	5	5
	cutting down lots of trees *(bad)*	47	61
	general dislike of change	20	14

Commentary:

Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. The MI students seemed to be much more aware of local economic and employment considerations, while having higher concern about health risks.

Technology Link Tasks 2, 3,4, 5, 9

LINK TASK 2

Approach: One to one
Focus: Reasons for design features.
Resources: Photograph of equipment.

		% responses GEd	% responses MI
Total score:	6	0	0
	5	0	0
	4	5	0
	3	23	8
	2	39	31
	1	28	49
	0	5	12

Commentary:
Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

LINK TASK 3

Approach: Station
Focus: Diagramming a process.
Resources: Video on a laptop computer.

		% responses GEd	% responses MI
Total score:	20–23	2	0
	15–19	39	32
	10–14	30	45
	5–9	14	14
	0–4	15	9

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 4

Approach: One to one
Focus: Understanding design features.
Resources: A piece of equipment and an object to use it on.

		% responses GEd	% responses MI
Total score:	more than 5	7	6
	4–5	25	12
	2–3	54	50
	0–1	14	32

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 5

Approach: Station
Focus: Design and draw.
Resources: Photograph.

		% responses GEd	% responses MI
Total score:	more than 7	9	7
	6–7	19	7
	4–5	19	11
	2–3	18	27
	0–1	35	48

Commentary:
Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

LINK TASK 9

Approach: One to one
Focus: Industrial change across time.
Resources: Two pictures.

		% responses GEd	% responses MI
Total score:	more than 5	2	0
	4–5	29	28
	3	42	30
	2	19	35
	0–1	8	7

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

The purpose of language is communication. Communication is a process of sharing knowledge, experiences, information, ideas and feelings. Communication through language involves webs of interaction between messages that are given and received.

We produce messages by speaking, writing and presenting. We consume messages by listening, reading and viewing. This chapter focuses on two of these six components: reading and speaking.

Because communication is essentially an interactive process, the oral, written and visual components of language are highly interrelated. The ability to read and present a play, for example, combines skills of reading and speaking. For this reason, the tasks discussed here cannot neatly be divided into two categories. Some predominantly involve reading, some predominantly involve speaking, and others involve a more equal mix of reading and speaking.

This chapter reports the results of twelve reading and speaking tasks administered to individual Māori students in both general education settings and Māori immersion settings. Two tasks required all students to read Māori words or text, although the task instructions were given in English for the Māori students in general education settings. The other ten tasks were presented in English for the Māori students in general education and in Māori for the students in Māori immersion education, but involved the same instructions and content in translation.

Nine tasks were administered in a videotaped, one-to-one interview format and three were attempted in a station format (where students worked independently, recording their responses on paper).

National monitoring results are reported task by task so that results can be understood in relation to what the students were asked to do. To allow comparisons of performance between the 2000 and 2004 assessments, however, six of the twelve tasks have been designated link tasks. Student performance data on these tasks are presented in this report, but the tasks are described only in general terms because they will be used again in 2004.

Māori students in general education and Māori students in Māori immersion settings performed equally well on five tasks. Students in Māori immersion programmes scored statistically significantly higher on three tasks (including the two tasks involving reading of Māori words or text) and Māori students in general education scored statistically significantly higher on four tasks. These comparisons must be interpreted with considerable caution, for the reasons discussed in Chapter 2.

He Kōrero — Stories in Māori

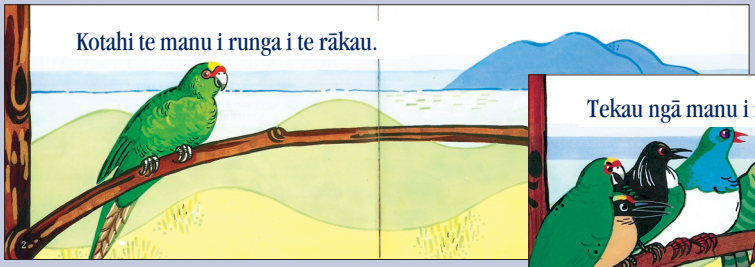
Approach: One to one
Focus: Accuracy of oral reading in Māori.
Resources: 3 story books in Māori.

Questions/Instructions:
In this activity we have some stories that are written in Māori. Some children can read a little bit in Māori, and others can read a lot.Here are three very short stories that are written in Māori.I would like you to have a go at reading this first little story. It doesn't matter if you can't read all of it, but have a go.

E toru ēnei kōrero paki kua tuhia i roto i te reo Māori.

Ka pānuitia e koe, ēnei pukapuka e toru.

NGĀ MANU I RUNGA I TE RĀKAU



E rua ngā manu i runga i te rākau.
E toru ngā manu i runga i te rākau.
E whā ngā manu i runga i te rākau.
E rima ngā manu i runga i te rākau.
E ono ngā manu i runga i te rākau.
E whitu ngā manu i runga i te rākau.
E waru ngā manu i runga i te rākau.
E iwa ngā manu i runga i te rākau.

First book: *Ngā Manu i Runga i te Rākau*

Let's begin with the first story, which is about birds. As you read out loud, think what the story is about. If you come to words you can't read, just give them a go, and carry on with the story. When you've finished reading, I'll ask you to tell me what the story was about.

Student reads independently of help from the teacher, but with encouragement.

1. Have you read this story before?
2. Tell me what the story was about.
3. How many birds were there altogether?
4. What happened at the end of the story?

Pukapuka Tuatahi: *Ngā Manu i Runga i te Rākau.*

Anei te pukapuka tuatahi. Pānui mai ā-waha me te whakaaro anō ki te kaupapa o te kōrero. Ki te kore koe e mōhio ki tētahi kupu, me tahuri noa [try/tarai/ngana], ā, ka haere tonu. Kia mutu tō pānui me kī mai koe, he aha te kaupapa o te kōrero.

Mā te ākonga tonu e kawe i a ia anō, ko tā te kaiako, ko te whakahau i a ia.

1. Kua pānui anō koe i tēnei kōrero i mua?
2. Kōrerohia mai te kaupapa o taua kōrero.
3. E hia ngā manu katoa?
4. I ahatia, i te mutunga o te kōrero?

		% responses GEd	MI
	full attempt to read	93	100
	had read story before	4	74
	0 – 10% errors	36	100
Comprehension	more and more birds landed on branch	71	88
	eventually 10 birds	85	98
	branch broke	51	54
	birds flew away	44	72
OVERALL SUCCESS		27	84

POAKA KUNEKUNE

Show the story titled *Poaka Kunekune* and ask the student if they think they might be able to read it. If they say yes, carry on. If not, discontinue the task.

Poaka Kunekune is a little story about a pig. Read it out loud to me, then I'll ask you what it's about.

5. Have you read this story before?
6. Tell me what the story is about.
7. What did the food taste like?
8. What happened to the pig at the end of the story?

Whakaaturia te pukapuka *Poaka Kunekune.*

Ko te *Poaka Kunekune*, he kōrero tēnei mō tētahi poaka. Pānui mai ā-waha. Kātahi ka pātai au, he aha te kaupapa o taua kōrero.

Mā te ākonga tonu e kawe i a ia anō, ko tā te kaiako, ko te whakahau i a ia.

5. Kua pānui anō koe i tēnei kōrero i mua?
6. Kōrerohia mai te kaupapa o taua kōrero.
7. I pēhea te <u>rongo</u> [taste/ngao/reka] o te kai?
8. I te mutunga o te kōrero i ahatia te poaka?

	% responses GEd	MI
full attempt to read	76	100
had read story before	4	74
0 – 10% errors	19	100
Comprehension about a pig	75	94
pig ate fruit and vegetables	39	90
pig found food delicious, sweet	39	88
mentioned all apple, peach, pumpkin, kumara	3	12
pig tried to eat lemon	17	78
pig upset — lemon sour	20	84
OVERALL SUCCESS	13	94

continued next page >

KARENGO

Stories in Māori: continued

Show the story titled Karengo [previous page] and ask the student if they think they might be able to read it. If they say yes, carry on. If not, discontinue the task.

The family in the story are gathering karengo to eat. Read the story to the end of page 7, then I'll ask you what it's about.

9. Have you read the story before?
10. Tell me what the story is about.
11. Why does it say that it's good to wash karengo?
12. Why does the author say you have to take care when you are cooking karengo?

I tēnei kōrero, kei te kohikohi karengo te whānau, hei kai mā rātou. Pānuitia te kōrero ki te mutunga o te whārangi 7, kātahi ka pātai au mō tōna kaupapa.

9. Kua panui anō koe i tēnei kōrero i mua?
10. Kōrerohia mai te kaupapa o taua kōrero.
11. He aha te take i kīia ai he pai te horoi i ngā karengo?
12. Nā te aha i kī ai te kaituhi, me tino tūpato i te wā e tunu ana koe i te karengo?

		% responses GEd	MI
	full attempt to read	39	100
	had read story before	3	24
	0 – 10% errors	31	100
Comprehension	seaweed on rocky coast	4	6
	picking seaweed	30	88
	washing seaweed	7	6
	washing to remove sand/shells	7	42
	carry home in bag	1	6
	put seaweed in dish	1	2
	cook seaweed	24	46
	stop it burning	8	36
OVERALL SUCCESS		9	40
Total score:	3	3	40
	2	14	40
	1	12	18
	0	71	2

Commentary:

Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. Given the special focus for MI students on learning Te Reo Māori , this finding is not unexpected.

Ngā Tohu o te Tāone

Approach: One to one

Focus: Reading signs with strong visual cues.

Resources: Ten photographs. Māori translations of the signs were presented on a card.

Questions/instructions:

I'm going to show you some pictures of signs. Signs usually give us messages or tell us something.

As you look at each picture, try to do two things: read out loud the words on the sign, then tell me what you think the sign means.

Anei ngā whakaahua o ngā tohu. He tikanga kōrero anō tā ngā tohu mō tātou.

I a koe e titiro ana ki ia whakaahua me mahi koe i ēnei mea e rua; pānui ā-wahatia ngā kupu o te tohu; whakamāramatia mai te tīkanga o te tohu.

Show student each sign in order from 1 to 10. Say, "Here's picture number 1"; "Here's picture number 2", etc. Ask the two questions for each sign (below). *Don't* give help with reading words. *Do* give encouragement to try.

1. Read the words on the sign.
2. Explain what you think the sign means without just reading out the words.

1. Pānui ā-wahatia ngā kupu o te tohu.
2. Whakamāramatia mai te tikanga o te tohu, kaua e pānui noa iho.

	% responses GEd	MI
read words accurately	100	95
explained vehicles can't go in this way	96	89

	% responses GEd	MI
read words accurately	82	73
explained you can use a phone here with a Telecom card	84	47

	% responses GEd	MI
read words accurately	97	89
explained you can get fish & chips here	92	87
explained you can drive in to get them	88	68

Ngā Tohu o te Tāone — Signs Around Town

NEMP Access Task

Ngā Tohu o te Tāone — Signs Around Town

1. **No Entry**
Kuhunga Kore

2. **Card**
Kāri

3. **Fish and Chips**
Ika me te Kotakota Riwai

Drive In
Taraiwa Mai

4. **Gates Closed 5.30**
Ka Kati ngā Keti 5.30 pm.

5. **Fire Exit. Keep Clear at all Times**
Putanga Ahi. Whakawāteangia i ngā Wā Katoa.

6. **Tow Away Area**
He Wāhi Tō Waka Atu.

MacDonalds Customer Car Park
He Tūnga Mōtoka mō ngā Kaihoko o MacDonalds

7. **Dogs Prohibited**
He Wāhi Rāhui Kuri

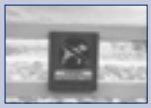
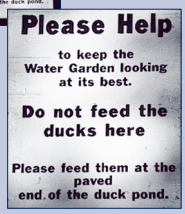
Dunedin City Council
Te Kaunihera o te Tāone Nui o Otepoti

8. **Please help to keep the water garden looking at its best...**
Manaakitia koa te māra wai kia ataahua tonu. Kaua e whāngai rakiraki ki konei. Me whāngai ki te moka apu o te ara puna rakiraki.

9. **Cycles & Motorcycles Prohibited Past here at all times.**
Ngā Paihikara me ngā Motopaika. Kua Rāhuitia atu i kōnei i ngā wā katoa.

10. **Due to Construction for your own..**
Tāngata Hīkoikoi Nā ngā Mahi Hangahanga me hīkoi koa mā tērā atu ara, kei whara koe.

	% responses GEd	MI
 read words accurately	91	86
explained gates will be closed at 5.30pm	80	84
 read words accurately	88	89
explained you should not block this area, it might be needed as a fire exit.	62	63
 read words accurately	95	78
Explained :		
you can park here for McDonalds	67	76
you can be towed away if you park here and don't go to McDonalds	49	50

	% responses GEd	MI
  read words accurately	83	73
explained that dogs are not allowed in this area	99	97
  no more than 2 words incorrect	96	83
explained that ducks should not be fed here	64	84
explained where ducks should be fed	63	66
explained why	55	45
 read words accurately	94	78
explained no bikes of any sort allowed here	72	71
 no more than 1 word wrong	87	75
explained const-ruction going on	64	42
explained walk on opposite path	71	63
Total score: 21 – 25	53	39
17 – 20	33	36
13 – 16	13	9
9 – 12	1	3
5 – 8	0	3
0 – 4	0	0

Commentary:

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

He Pukapuka Tino Pai — Favourite Book

Approach: One to one
Focus: Enjoyment of reading.
Resources: Sheet of photographs.

Questions/instructions:

Show the student the photo page.

Here are some pictures showing children enjoying reading books. In this activity I'm interested in hearing you tell me about a book you've read this year. Try to think of one that you really enjoyed. When you've thought of one, let me know.

Kei te whakaatu ēnei whakaahua i te kaingākau o ngā tamariki ki te pānui pukapuka. Kei te hiahia mōhio ahau mō tētahi pukapuka kua pānuitia e koe i tēnei tau. Ko tēhea te pukapuka kaingākautia ana e koe. Kia whakaarotia e koe, kōrero mai.

Allow time for student to think of a book. If they can't think of a book from this year, suggest they choose a book from a previous year. When student is ready, ask:

	% responses GEd	MI
1. Can you remember the name or title of the book? Kei te mahara koe ki te ingoa o te pukapuka? *Prompt: What was the title? He aha te ingoa?*		
specifies title clearly	75	84
identifies series — no specific title	9	5
unclear/unsure of title	8	3
no response	8	8
2. Do you remember who wrote it? Kei te mahara koe nā wai i tuhi? *Prompt: Who wrote it? Ko wai te kaituhi?*		
named fully	34	32
surname only	1	0
unclear/ unsure	33	8
no response	32	60

		% responses GEd	MI
3. Now think about the book and what made it really good for you to read. Explain to me why you enjoyed the book. He aha i tino pai ai ki a koe te pānui i taua pukapuka? Whakamāramatia mai nā te aha i pārekareka ai koe, ki taua pukapuka.			
What made it good	genre/type	32	38
	topic/content	72	65
	pictures	8	14
	characters	41	14
	reading level	9	5
	learned a lot from it	5	14
	writing style	19	5
How strongly did student communicate enjoyment?	extremely strongly	1	0
	strongly	28	30
	moderately	46	32
	a little	17	27
	not at all	8	11
4. Did someone give you the book to read, or did you find it on your own? Nā tētahi i hōatu taua pukapuka hei pānui māu, nāu tonu ake rānei i kite? *Prompt: Where did you get the book from? I rapua e koe te pukapuka, mai i hea?*			
	home	4	14
	friend	3	3
	school library	53	32
	classroom	9	11
	community library	3	14
	gift	11	0
	school book club	0	3
	personal purchase	1	22
	Duffy's Books	11	0
	don't read at all	5	3

Commentary:

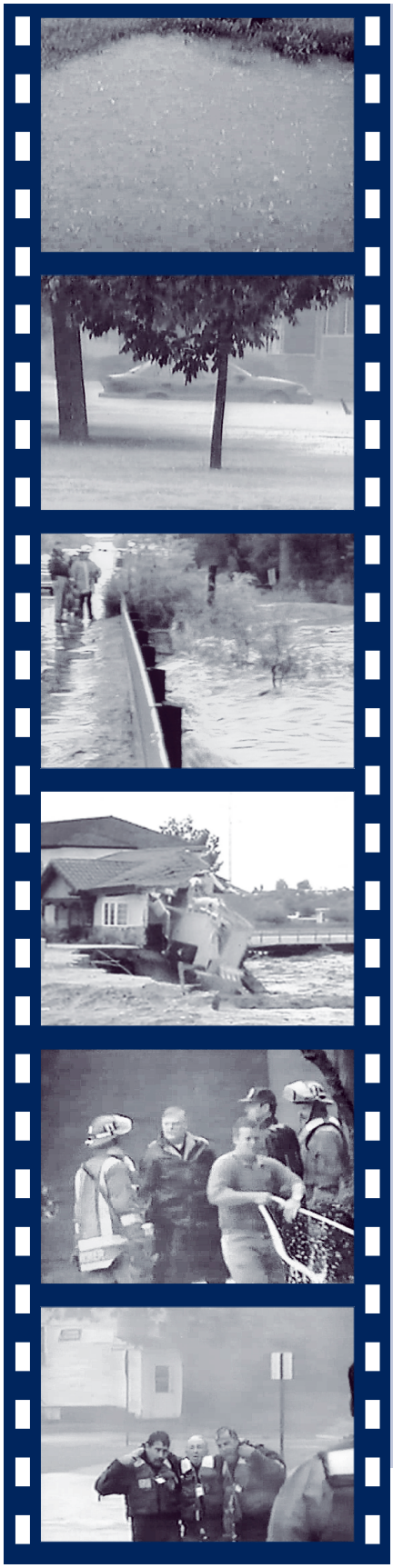
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

He Pitopito Kōrero — News

Approach: One to one

Focus: Presenting a news report based on observed events.

Resources: Video recording without sound on laptop computer, still pictures from video.



The video recording showed a raging flood with substantial damage occuring and then a person being swept away and rescued.

Questions/instructions:

In this activity you will be watching a video clip showing something that could be on the news. Watch the video carefully, because at the end I want you to tell me all about it.

I roto i tēnei mahi e mātakitaki ana koe i tētahi rīpene poto e pā ana ki ngā pitopito kōrero. Āta mātakitakihia, ā, i te mutunga me kōrero mai koe mō te rīpene nei.

Click the *Play* button to start the video.

Now I want you to imagine that you are a news reporter. You are going to tell a news story about what you saw on the video. You should try to describe what happened, and to tell the news so that it sounds interesting. Here are some pictures from the video to help you tell the news story.

Me whakaaro noa he kaipānui pitopito kōrero koe. Kei te pānui koe mō tētahi pitopito kōrero i kite koe i runga i te ataata. Kōrerotia i ahatia, me te whakareka hoki i aua kōrero. Anei he pikitia mai i te ataata hei āwhina i āu kōrero.

Give student pictures. (left)

Tell me all about the news story.

Kia kaha te kōrero mai mō ngā pitopito kōrero.	% responses GEd	MI
Aspects mentioned:		
heavy rain	55	56
flooding through town	88	75
car stranded	47	48
debris threatening bridge	29	27
house collapsing	80	92
houses threatened by water swells	22	13
man falling into flood	61	54
emergency services rushing to rescue	74	44
man rescued with rope and float	66	71
everyone recovering	17	17

		% responses GEd	MI
Appropriate introduction: *highlighting drama, capturing attention*	strong	19	27
	medium	28	36
	weak	53	37
Coherence, flow, continuity:			
	strong	13	25
	medium	68	48
	weak	19	27
Sense of drama conveyed:			
	strong	15	10
	medium	54	46
	weak	31	44
Speech clarity:			
	very clear & well articulated	8	29
	some minor limitations	72	50
	significant difficulties	19	21
	very hard to understand	1	0

Commentary:

The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

Te Hanawiti — The Sandwich

Approach: One to one

Focus: Retelling a story from a picture book without words.

Resources: *The Sandwich,* P Edwards & L Bambrough; illustrator, Martina Selway;Longman Cheshire; Melbourne; 1987.

Question/instructions:

In this activity I would like you to tell a story.

This book called *The Sandwich* tells a story in pictures but it doesn't have any words. I want you to make up your own story by looking at the pictures. Pretend that you are going to tell the story to a young child. You need to make it as interesting as possible.

Here is the book. Have a quick look through it first, then you can start to tell me the story in a way that makes it fun to listen to.

I tēnei mahi, kei te pīrangi ahau kia kōrerotia mai e koe tētahi pakiwaitara.

Ko *Te Hanawiti* te ingoa o tēnei pukapuka engari he pikitia anake, kāhore he kupu. Ko taku hiahia, māu tonu e whakaaro i tāu ake kōrero mō ia pikitia, mō ia pikitia. Me whakaaro noa koe, kei te kōrero ki tētahi tamaiti nohinohi. Kia kaha tonu tō whakapārekareka i āu kōrero.

Anei te pukapuka. Me kakama te titiro ki ngā pikitia i te tuatahi, kātahi ka tīmata ki te kōrero kia ngahau ai te whakarongo atu.

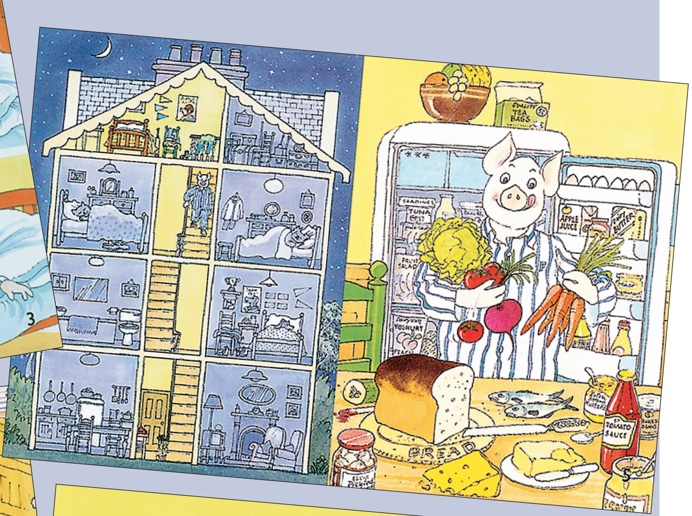
	% responses GEd	MI
Covering the main thread of the story		
strong	62	83
moderate	34	15
weak	4	2
Embellishing the story *detailed description*		
strong	35	53
moderate	47	21
weak	18	26
Clear oral expression of ideas		
strong	43	57
moderate	47	30
weak	10	13
Making presentation interesting		
strong	24	23
moderate	57	41
weak	19	36

	% responses GEd	MI
Overall effectiveness in presenting story		
very high	9	34
quite high	34	28
moderate	50	23
low	7	15
Total score: 10–11	18	38
8–9	21	22
6–7	24	17
4–5	22	8
2–3	8	6
0–1	7	9

Commentary:

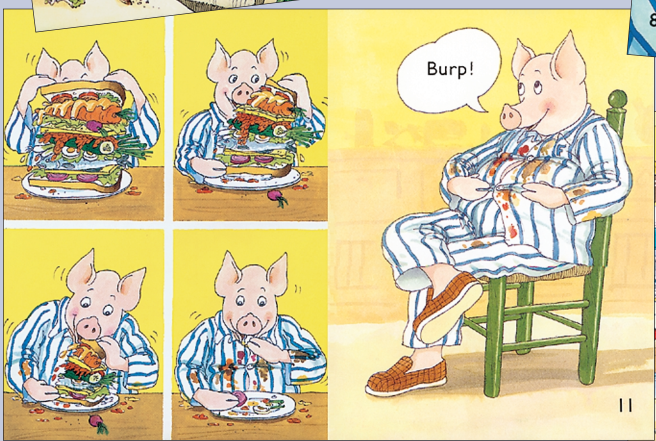
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

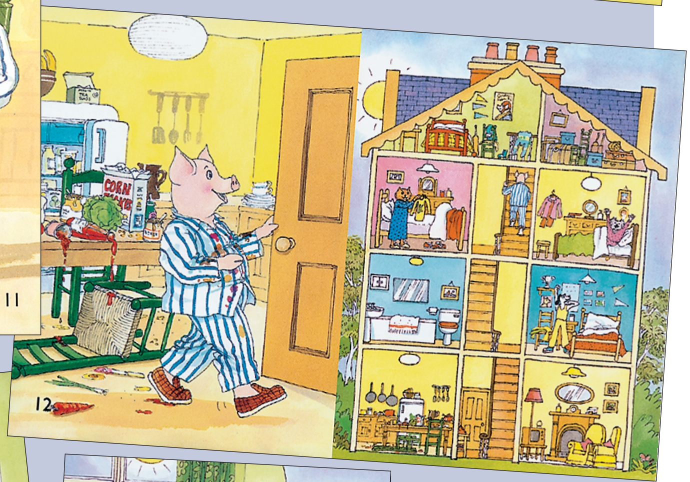

YAWN
9.00pm
FRED
4.00am
4.10am
3


TEA BAGS
TUNA
APPLE JUICE
YOGHURT
BREAD
TOMATO SAUCE
5

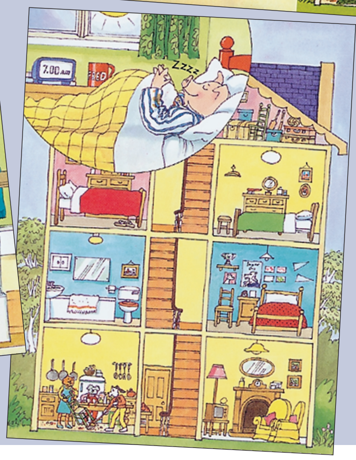

CORN FLAKES
BREAD
7


8
9


Burp!
11


CORN FLAKES
12


YAWN
6.30am
FRED
Wombat Creek
Koala Summer Camp
Kangaroo Valley
Captain Superpig
FRED
14
15


7.00am
Zzzz

Ngā Karu o Ngā Ngeru — Cats' Eyes

Approach: Station
Focus: Reading comprehension.
Resources: Story sheet.

NGĀ KARŪ O NGĀ NGERŪ

Ka rapu kai ētahi kararehe i te pō. He karu motuhake o rātou, hei āwhina i a rātou ki te kite, i te wā paku noa te mārama.

He maha ngā tāngata i te whakaaro e āhei ana ngā ngeru ki te kite i te wā pōuri. Kāore e tika ana tēnei. Kāore ngā ngeru i te kite, inā, ka tino pōuri, engari he iti ake te mārama mō te ngeru ki tērā o te tangata.

Ko ngā ngeru katoa, ahakoa te paku, te nui rānei, he karupango pupil of the eye whaiti, he karupango pango o ō rātau karu. Ka rahi ake ēnei, inā, kāore i te tino mārama, ā, ka whaiti anō, inā, ka tino mārama rawa atu.

Pēwhea te kuri? E āhei ana ngā kuri ki te kite i te pō? Kao. E ōrite ana ō rātou karu ki o tātou, he karupango porowhita, ā, ka rahi anō mēnā ka āhua iti rawa ake te mārama.

CATS' EYES

Some animals hunt for their food at night. They have special eyes that help them see when there is only a little light.

Many people think that cats can see in the dark. This is not true. Cats cannot see when it is completely dark, but they need much less light than people need.

All cats, large or small, have narrow black pupils in their eyes. These grow larger when there is not much light, and become narrow again when it is bright.

What about dogs? Can they see at night? No. They have eyes like ours, with round pupils, which also become larger when there is less light.

Questions/instructions:			% responses	
			GEd	**MI**
Put a ring around the **a, b** or **c** beside the best answer.	Porohitatia te **a**, te **b**, te **c** rānei i te taha o te whakautu pai rawa atu.			
1. Some animals can hunt at night because… a. they are clever b. they cannot see in daylight (c.) they can see when there is not much light	1. E āhei ana ētahi kararehe ki te rapu kai i te pō nā te mea.... a. he tino mōhio rātou kāore rātou b. i te kite i te wā awatea (c.) ka kite rātou ahakoa paku noa te mārama.	c	88	88
2. Can cats see when it is completely dark? a. Yes (b.) No c. Don't know	2. E āhei ana ngā ngeru ki te kite i te wā tino pōuri rawa atu? a. Āe (b.) Kao c. Aua hoki	b	82	67
3. When are cats' pupils very narrow? (a.) When it is light b. When it is nearly dark c. When it is completely dark	3. Āwhea te wā e tino whāiti ana ngā karupango [pupil of the eye] o ngā ngeru? (a.) ā te wā e mārama ana te ao b. ā te wā e tata ana te pōuritanga c. ā te wā e tino pōuri rawa atu ana	a	61	54
4. Dogs' eyes are different from cats' eyes because dogs… a. have narrow pupils (b.) have round pupils c. have pupils that become smaller at night	4. E rerekē ana ngā karu o ngā kurī ki ngā karu o ngā ngeru nā te mea, ko ngā karu o ngā kurī..... a. he whāiti ngā karupango (b.) he porowhita ngā karupango c. ka iti ake ngā karupango i te pō	b	74	69
5. What does the story tell us about humans' eyes? a. They have narrow pupils (b.) They have round pupils c. Their pupils change when they go hunting	5. He aha te kōrero e pā ana ki ngā karu o te tangata? a. he karupango whāiti ō rātou (b.) he karupango porowhita ō rātou c. ka huri rerekē ngā karupango i te wā ka rapu kai rātou	b	89	83
6. Which of these do you think would have narrow pupils in their eyes? a. Dogs (b.) Tigers c. Humans	6. Ko ēwhea o ēnei, ka whai karupango whāiti i roto i ō rātou karu? a. ko te kurī (b.) ko te tāika c. ko te tangata	b	69	42
		Total score: 6	36	15
		5	33	25
		4	7	29
		3	12	14
		2	7	15
		0–1	5	2

Commentary

Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

Reading and Speaking: Link Tasks 1, 4, 5, 8, 9, 10

LINK TASK 1

Approach: One to one
Focus: Pronouncing Māori words.
Resources: Twelve pictures with words.

		% responses GEd	MI
Total score:	56 – 60	29	98
	51 – 55	28	0
	46 – 50	22	0
	41 – 45	11	0
	36 – 40	3	0
	31 – 35	0	2
	26 – 30	1	0
	21 – 25	3	0
	0 – 20	3	0

Commentary:
Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings. Given the special focus for MI students on learning Te Reo Māori, this finding is not unexpected.

LINK TASK 4

Approach: Independent
Focus: Completing a story.
Resources: Series of pictures and text.

		% responses GEd	MI
Total score:	3	23	27
	2	69	51
	1	8	11
	0	0	11

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 5

Approach: Station
Focus: Reading comprehension.
Resources: None.

		% responses GEd	MI
Component:	1	73	42
	2	69	21
	3	64	47
	4	50	35

Commentary:
Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

LINK TASK 8

Approach: One to one
Focus: Retelling a process viewed.
Resources: Video recording on laptop computer; still photos from video.

		% responses GEd	MI
Total score:	16–18	11	0
	13–15	50	23
	10–12	30	36
	7–9	8	26
	4–6	1	12
	0–3	0	3

Commentary:
Māori students in general education (GEd) settings scored statistically significantly higher than did Māori students in Māori immersion (MI) settings.

LINK TASK 9

Approach: One to one
Focus: Presenting an advertisement based on a photograph.
Resources: Photograph.

		% responses GEd	MI
Total score:	17–23	3	6
	13–16	26	20
	10–12	39	33
	7–9	27	22
	4–6	4	16
	0–3	1	3

Commentary:
The results achieved by Māori students in general education (GEd) and Māori immersion (MI) settings were not statistically significantly different.

LINK TASK 10

Approach: One to one
Focus: Social task
Resources: None

		% responses GEd	MI
Total score:	17–20	0	27
	13–16	14	2
	9–12	14	34
	5–8	49	10
	0–4	23	2

Commentary:
Māori students in Māori immersion (MI) settings scored statistically significantly higher than did Māori students in general education (GEd) settings.

Attitudes and Motivation

The national monitoring assessment programme recognises the impact of attitudinal and motivational factors on student achievement in individual assessment tasks. Students' attitudes, interests and liking for a subject have a strong bearing on progress and learning outcomes. Students are influenced and shaped by the quality and style of curriculum delivery, the choice of content and the suitability of resources. Other important factors influencing students' achievements are the expectations and support of significant people in their lives, the opportunities and experiences they have in and out of school, and the extent to which they have feelings of personal success and capability.

MUSIC

The national monitoring music survey sought information from students about their involvement in and enjoyment of music curriculum experiences at school. Students were also asked about their involvement in and enjoyment

MUSIC SURVEY

percentages: general education **Māori immersion**

1. How much do you like doing music at school?

	43	**49**	45	**35**	8	**10**	4	**6**

2. How often do you do these things in music at school?

	lots		*quite often*		*sometimes*		*never*	
a. Singing	12	**30**	42	**40**	42	**28**	4	**2**
b. Playing instruments	15	**17**	23	**5**	47	**58**	15	**20**
c. Listening to music	39	**40**	21	**24**	34	**34**	6	**2**
d. Dancing/moving to music	17	**13**	22	**33**	43	**31**	18	**23**
e. Making up music	10	9	16	24	44	**39**	30	**28**

3. How much do you **like** doing these things in music at school?

a. Singing	33	**56**	38	**32**	19	**10**	10	**2**
b. Playing instruments	50	**39**	32	**39**	12	**20**	6	**2**
c. Listening to music	75	**60**	17	**26**	7	**14**	1	**0**
d. Dancing/moving to music	33	**37**	34	**30**	21	**19**	12	**14**
e. Making up music	24	24	40	27	25	**29**	11	**20**

4. How much time out of school do you **do** these things in music?

	lots		*quite often*		*sometimes*		*never*	
a. Singing	21	**30**	19	**23**	43	**36**	17	**11**
b. Playing instruments	10	**10**	17	**17**	46	**50**	27	**23**
c. Listening to music	61	**47**	24	**18**	12	**29**	3	**6**
d. Dancing/moving to music	19	**17**	21	**26**	36	**37**	24	**20**
e. Making up music	13	**17**	7	**10**	41	**33**	39	**50**

5. How much do you **like** doing these things out of school time?

a. Singing	38	**47**	25	**29**	26	**20**	11	**4**
b. Playing instruments	35	**29**	37	**44**	14	**19**	14	**8**
c. Listening to music	86	**53**	13	**23**	0	**22**	1	**2**
d. Dancing/moving to music	37	**31**	25	**27**	24	**21**	14	**21**
e. Making up music	28	**8**	19	**27**	32	**34**	21	**31**

6. How do you feel about learning or doing more music as you get older?

	52	**41**	35	**53**	9	**4**	4	**2**

of music related activities out of school time. There are numerous research questions that could be asked when investigating student attitudes and engagement. In national monitoring it has been necessary to focus on a few key questions that give an overall impression of how students regard music in relation to themselves.

Each survey was administered in a session which included group and independent tasks. The surveys included 22 questions that could be responded to by ticking or circling a chosen response. Responses to these 22 questions are summarised in the large table on the previous page.

The most notable differences between Māori students in general education and students in Māori immersion programmes involves singing and listening to music. Students in Māori immersion programmes reported greater involvement in singing both in and outside school, similarly, they expressed greater enjoyment of singing in school and out of school time. Students in Māori immersion programmes spent less time listening to music out of school, and expressed lower levels of enjoyment of listening to music (in and out of school).

TECHNOLOGY

The national monitoring technology survey sought information from students about their perceptions of their achievement and potential in technology. Students were also asked about their involvement in technology related activities within school and beyond. The survey was administered to students in independent format, with teacher help readily available. Four questions asked students to select a response on a four point scale.

The remaining survey questions were open ended, inviting students to give a written or spoken response. For each question, their responses were categorized into several categories, as indicated below.

What is technology?

At the beginning of the survey, students were asked what they thought technology was. The table at right summarises the responses into eight categories.

For both Māori students in general education and students in Māori immersion programmes, the most popular category was *Making and designing*, with other areas substantially lower.

WHAT IS TECHNOLOGY?	% responses GEd	MI
Hi-tech equipment/computers	16	24
Making and designing	46	38
Learning about equipment	13	11
Science	3	4
Inventing	5	0
Meeting needs, solving problems	10	0
Workshop subjects	20	4
Other appropriate	24	5

TECHNOLOGY SURVEY

percentages: general education **Māori immersion**

1. How much do you like doing technology at school?								
	61	**56**	31	**40**	6	**4**	2	**0**
2. How good do you think you are at technology compared to other subjects?								
	14	**33**	67	**57**	15	**10**	4	**0**
	most days		*more than once a week*		*less than once a week*		*hardly ever*	
3. How often do you use a computer at school?								
	23	**16**	24	**45**	24	**27**	29	**12**
4. How often do you use a computer when not at school?								
	38	**26**	16	**29**	10	**18**	36	**27**

What do you do in technology?

In a related question, students were asked what sorts of things their class did when they were doing technology at school. Their responses were categorised into eight categories and are summarized in the table at right.

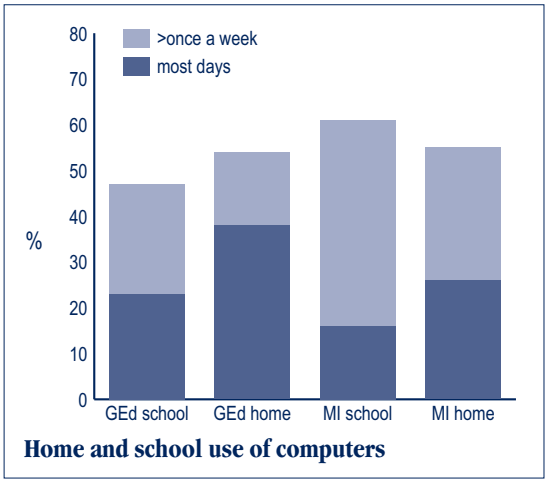
The two strongest categories for Māori students in general education were:
➢ *workshop subjects* (47 percent of students);
➢ *making and designing* (37 percent of students)

The three strongest categories for Māori immersion students were:
➢ *making and designing* (70 percent of students)
➢ *learing about equipment* (68 percent of students)
➢ *computers* (46 percent of students)

Students in Māori immersion programmes were more positive about how good they were at technology.

WHAT DO YOU DO IN TECHNOLOGY?	% responses	
	GEd	MI
Computers	16	46
Making and designing	37	70
Learning about equipment	4	68
Science or Maths	14	3
Solving problems	1	0
Doing research	3	0
Workshop subjects	47	0
Other appropriate	23	27

Computer use



Home and school use of computers

Smaller proportions used a computer "most days" at school or home, but a higher proportion used a computer more than once a week at school (see table at left).

Students were asked what sort of things they do when using the computer both at school and when not at school. The table below summarises the results, with the responses showing the percentages of computer use when not at school in the column 'home'. For both Māori students in general education and students in Māori immersion programmes, playing games is the most popular use of the computer when not at school, with research the next most popular use.

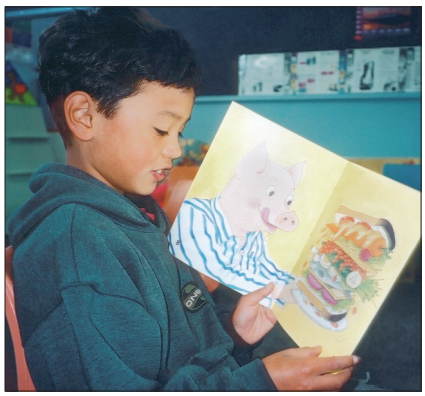
For Māori students in general education, playing games is also the most popular use of the computer at school. Other popular activities at school are publishing, research and computer skills.

When at school, the most popular activity for students in Māori immersion programmes is computer skills. Other activities were about half as popular.

COMPUTER USE	% responses			
	GEd		MI	
	school	home	school	home
Publishing	34	11	13	7
Games	45	62	20	45
Research	29	29	18	27
Computer skills	29	17	38	11
Drawing and pictures	7	7	18	13

READING AND SPEAKING

The national monitoring reading and speaking surveys sought information from students about their curriculum preferences and their perceptions of their achievement. Students were also asked about their enjoyment of and involvement in reading and speaking activities, within school and beyond. The surveys were administered in a session which included group and independent tasks, with a teacher reading the survey to year 4 students and available to help with writing. There were four questions that invited students to select up to three choices from lists of 8 to 10 options, two questions that asked for very brief written responses, and 21 questions in a 4 or 5 option rating format, with students circling the option they preferred.



Reading at school

The students were presented with a list of eight reading activities and asked which they liked doing most at school. They were invited to tick up to three activities. The responses are shown below. Students in Māori immersion programmes were more positive about reading with a buddy or partner, and less positive about looking at or browsing through books.

PREFERRED READING ACTIVITES AT SCHOOL	% response GEd	MI
silent reading	52	51
written work	49	53
listening to the teacher reading	41	40
reading with a buddy or partner	41	51
looking at or browsing through books	31	20
talking about books	19	22
reading aloud	17	24
reading with the teacher	12	9

Reading in own time

In response to a list of seven types of reading material, students indicated up to three which they liked reading in their own time. The responses are shown below.

PREFERRED READING MATERIAL IN OWN TIME	% response GEd	MI
story books (fiction)	41	26
magazines	16	15
books about real things and people (non-fiction)	13	11
comics	10	4
no response	9	27
other	5	4
junk mail	4	0
poetry	1	9
newspapers	1	4

Because of a lower response rate from students in Māori immersion programmes, it is difficult to compare the two distributions.

A good reader

Another question asked the students to select up to three "important things a person needs to do to be a good reader". They were given 10 approaches to choose from. The responses are shown below.

IMPORTANT THINGS FOR A GOOD READER AT SCHOOL	% response GEd	MI
enjoy reading books	51	24
read a lot	40	35
concentrate hard	40	11
go back and try again	38	22
sound out words	35	38
choose the right book	33	16
learn hard words	20	53
think about what I read	15	35
practise doing hard things	12	22
listen to the teacher	9	38

Compared to Māori students in general education, students in Māori immersion programmes placed much greater emphasis on learning hard words and listening to the teacher, and less emphasis on concentrating hard, enjoying reading books, and choosing the right book.

Survey table

Responses to the 21 rating items (opposite) revealed a number of interesting differences. Compared to Māori students in general education, students in Māori immersion programmes were more positive about reading at school, getting a book for a present, and looking at books in a bookshop, but less positive about their teacher reading a story out loud and about talking to their whole class. They reported fewer opportunities to talk to their whole class or to others in their class.

READING AND SPEAKING SURVEY

Percentages: general education **Māori immersion**

									*don't know*	
1. How much do you like reading at school?										
	28	**41**	56	**52**	8	**7**	8	**0**		
2. How good are you at reading?										
	28	**38**	56	**51**	13	**11**	3	**0**		
3. How good does your teacher think you are at reading?										
	24	**21**	32	**49**	8	**2**	3	**2**	33	**26**
4. How good does your Mum or Dad think you are at reading?										
	47	**53**	24	**22**	7	**5**	5	**0**	17	**20**
	heaps				*quite a lot*		*sometimes*		*never*	
5. Does your teacher tell you what you are good at in reading?										
	11	**7**			20	**53**	53	**40**	16	**0**
6. Does your teacher tell you what you need to improve at in reading?										
	15	**18**			17	**43**	48	**37**	20	**2**
7. How often do you read to others at school?										
	3	**9**			19	**27**	55	**40**	23	**24**
										
8. How much do you like reading in your own time – not at school?										
	23	**23**			39	**43**	23	**25**	15	**9**
9. How do you feel about getting a book for a present?										
	30	**56**			41	**31**	22	**13**	7	**0**
10. How do you feel about looking at books in a bookshop?										
	41	**56**			37	**24**	19	**16**	3	**4**
11. How do you feel about going to a library?										
	42	**50**			33	**25**	18	**14**	7	**11**
12. How do you feel about the stories/books you read as part of your reading programme at school?										
	30	**22**			39	**49**	21	**22**	11	**7**
13. How do you feel when your teacher reads a story out loud?										
	50	**29**			28	**44**	17	**20**	5	**7**
14. How do you feel about how well you read?										
	47	**20**			37	**64**	12	**14**	4	**2**
15. How do you feel about reading in a group in the classroom?										
	32	**29**			42	**35**	15	**27**	11	**9**
16. How do you feel when you are asked to read out loud to the teacher?										
	24	**33**			32	**31**	29	**11**	15	**24**
17. How do you feel when asked to read out loud to the class?										
	15	**18**			29	**33**	27	**22**	29	**27**
18. How much do you like talking to your whole class?										
	36	**11**			25	**47**	28	**24**	11	**18**
19. How much do you like talking to a group in your class?										
	55	**44**			29	**38**	15	**14**	1	**4**
	heaps				*quite a lot*		*sometimes*		*never*	
20. How often do you get to talk to your whole class?										
	15	**0**			24	**27**	52	**64**	9	**9**
21. How often do you get to talk to others in your class?										
	41	**18**			37	**34**	22	**48**	0	**0**

Student's preferred activities in their own time

The students were presented with a list of nine activities that they might do in their spare time, and asked to tick up to three activities that they most liked to do. The responses are shown below, in order of popularity for year 4 students:

PREFERRED ACTIVITY IN OWN TIME	% response	
	GEd	MI
play games or sport	46	49
watch TV	40	44
play with friends	38	42
play video or computer games	32	44
talk on telephone with friends	32	40
music	30	15
read	29	22
do art	22	29
make things	8	2

Compared to Māori students in general education, students in Māori immersion programmes were a little more inclined to choose to play video or computer games, and substantially less inclined to choose music as an activity. Reading was the sixth most popular activity for both groups, ahead of just two other options.

Lanugage mainly spoken at home

Students were also asked "Which language do you mainly speak at home?".The responses were placed in categories and percentages are tabulated (below).

LANGUAGE MAINLY SPOKEN AT HOME	% responses	
	GEd	MI
English	89	65
Māori	10	35
Samoan	0	1
Other Pacific language	1	1
Asian language	0	3
Other language	0	1
Māori and English equally	0	2

Predictably, students in Māori immersion programmes were substantially more likely to have Māori be the main language spoken at home. However, almost two thirds of the Māori immersion students did not have the learning synergy of predominant home use of the language they were using in school.

Sampling general education schools

At year 8 level, 120 schools were selected randomly from national lists of state, integrated and private schools teaching at that level, with their probability of selection proportional to the number of students enrolled in the level. The process used ensured that each region was fairly represented. Schools with fewer than four students enrolled at the given level were excluded from these main samples, as were special schools and Māori immersion schools (such as Kura Kaupapa Māori).

Sampling Māori immersion schools

Ten schools were selected randomly from Māori immersion schools (such as Kura Kaupapa Māori) that had at least 4 year 8 students, and from other schools that had at least 4 year 8 students in classes classified as Level 1 immersion (80 to 100 percent of instruction taking place in Māori). Six of the chosen schools were immersion schools and four were general education schools with immersion classes (reflecting the similar numbers of students nationally in the two types of programme).

Pairing small schools

Nine of the 120 chosen schools in the general education sample had less than 12 year 8 students. For each of these schools, we identified the nearest small school meeting our criteria to be paired with the first school. Wherever possible, schools with 8 to 11 students were paired with schools with 4 to 7 students, and vice versa. However, the travelling distances between the schools were also taken into account. Six of the 10 schools in the Māori immersion sample also needed to be paired with other schools of the same type.

Contacting schools

In telephone calls with the principals, we briefly explained the purpose of national monitoring, the safeguards for schools and students, and the practical demands that participation would make on schools and students. We informed the principals about the materials which would be arriving in the school (a copy of a 20 minute NEMP videotape plus copies for all staff and trustees of the general NEMP brochure and the information booklet for sample schools). We asked the principals to consult with their staff and Board of Trustees and confirm their participation. Similar procedures were followed with the principals of the 16 schools in the Māori immersion sample, but for them brochures in both Māori and English were sent. Two of the immersion schools, involving 16 students, withdrew from the assessments because of other commitments, too late for substitutions to be arranged.

Sampling of students

With their confirmation of participation, each school sent a list of the names of all year 8 students on their roll. Using computer generated random numbers, we randomly selected the required number of students (12, or 4 plus 8 in a pair of small schools), at the same time clustering them into random groups of four students (which would be allocated different sets of assessment tasks). The schools were then sent a list of their selected students and invited to inform us if special care would be needed in assessing any of those students (e.g. students with disabilities or new settlers in New Zealand with very limited skills in English). Where necessary, replacement students were chosen, using the same random sampling procedure. Students in Māori immersion programmes were excluded if they had not passed four years in Māori immersion. Less than two percent of students were replaced for reasons other than moving school or planned absence for the full assessment week.

Communication with parents

Following these discussions with the school, Project staff prepared letters to all of the parents, including a copy of the NEMP brochure, and asked the schools to address the letters and mail them. Parents were told they could obtain further information from Project staff (using an 0800 number) or their school principal, and advised that they had the right to ask that their child be excluded from the assessment. Less than one percent of the selected students were replaced because they or their parents declined to participate.

Practical arrangement with schools

On the basis of preferences expressed by the schools, we then allocated each school to one of the five assessment weeks available and gave them contact information for the two teachers who would come to the school for a week to conduct the assessments. We also provided information about the assessment schedule and the space and furniture requirements, offering to pay for hire of a nearby facility if the school was too crowded to accommodate the assessment programme.

Resulting samples

For the purposes of this report, we were interested in four groups of year 8 students:

- Māori students in the one third of the general education sample who attempted task set A (a total of 76 students);
- Māori students in the one third of the general education sample who attempted task set B (a total of 89 students);
- Māori students in the half of the Māori immersion sample who attempted task set A (a total of 45 students);
- Māori students in the half of the Māori immersion sample who attempted task set B (a total of 50 students).

For tasks in set A, the performance of students in the first and third groups are compared. For tasks in set B, the performance of students in the second and fourth groups are compared.

Starting in 1999, assessments of year 8 students learning in Māori immersion programmes have been added to the National Monitoring programme. Two thirds of the 2000 NEMP assessment tasks — in areas of music, aspects of technology, and reading and speaking— were translated into Māori and administered to a national sample of Māori immersion students by teachers experienced in Māori immersion settings. This report presents the results they achieved, alongside the results achieved by Māori students in the national sample of year 8 students learning in English.

National monitoring provides a "snapshot" of what New Zealand children can do at two levels in primary and intermediate schools: ages 8–9 and ages 12–13.

The main purposes for national monitoring are:

- to meet public accountability and information requirements by identifying and reporting patterns and trends in educational performance
- to provide high quality, detailed information which policy makers, curriculum planners and educators can use to debate and review educational practices and resourcing.

ISSN 1174-0000
ISBN 1-877182-31-1

UNIVERSITY of OTAGO
TE WHARE WĀNANGA O OTĀGO

MINISTRY OF EDUCATION
Te Tāhuhu o te Mātauranga

MĀORI STUDENTS ASSESSMENT RESULTS IN MUSIC, TECHNOLOGY, READING AND SPEAKING 2000 NEMP