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- the 108 teachers who administered the assessments to the children
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TE WHAKARĀPOPOTONGA SUMMARY

TE KAUPAPA

I te tau 1993 ka whakatūngia Te Kaupapa Aroturuki Mātauranga Puta i Te Motu hei aromatawai, hei hanga pūrongo hoki i te āhua o ngā taumata e ekengia ana e ngā tamariki o ngā kura tuatahi o Aotearoa i roto i ngā wāhanga katoa o te marautanga ā-kura. I te tuatahi, e rua tonu ngā taumata i whakahāngaitia mō te kaupapa kia eke ki runga i ngā

tamariki o te tau 4 (i te hauruatanga o ngā tau whakamutunga i te kura tuatahi) me ngā tamariki o te tau 8 (i te tau whakamutunga o te kura tuatahi). Ia tau, ā, tae noa ki te tau tuawha, he wāhanga kē o te marautanga me ngā pūkenga hei whakamātau hei kokiri. I te tau 2001, ko ngā wāhanga i whakakapitia arā, kō ngā āhuatanga e pā ana ki ngā pūkenga mōhiohio, mahi tikanga-ā-iwi, me te pāngarau.

Ko te tino pūtake o te aromatawai ko te kaupapa kia hōropa ki runga i ngā tamariki kura o te motu hei hanga āhua kia mārakerake te kitea o te kaupapa e tūruki ana kia maranga ake hei whakanui, **w h a k a t i k a t i k a**, whakahāngai atu ki ngā ako rauemi.

Ia tau, ruarua nei ngā tamariki kua whiria noatia puta noa i te motu, hei arotake mā ētahi kaiwhakaako i āta tohungia, i whakatūngia i roto ake i ō rātou kura hei kōkiri, whakatakitaki i te kaupapa ki waenganui i ngā ākongā. Āpiti atu ki tēnei, ko te ārairai i ngā mahi ki te aroaro o ngā ākongā nei koia nā ka pā ki te reo tuku, whakahaere i te kōpae whakataata, o te rorohiko pōnahō, me te tuhituhi. Heoi anō, ko te nuinga anō o ngā mahi ka mahia e ngā tamariki ki runga i te āhua o tō rātou taputapu me ā rātou tāonga. Otirā, ko ā rātou whakautu mē whai ki tonu mai i runga i te reo tuku. Ki te whakaatu mai i tētahi whakaari hei tauira tuhi, me tētahi paenga kōrero ki runga i te rorohiko me tētahi taonga e hangāia ana e rātou hei tauira. Ākuanei, ko te nuinga anō o ā rātou whakautu ka hopukia ki runga i te mīhini ataata hei arotakenga ā muri iho.



TE PŪRONGA NEI



Ko te whakawhāiti he whakamārama i tēnei rīpoata kia hāngai ki ngā tamariki o te tau 8. Ā, mē te whakakopi o te āhua whakamārama e pā ana ki ēnei o ngā tamariki o roto i ngā whakaakoranga rumaki reo o te tau 1999.

I te tau 2001, āhua e 60 ōrau o ngā ākonga i ngā whakaakoranga rumaki reo Māori (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 rīroa, engari e 80 ki te 100 ōrau o ngā whakaakoranga i roto i te reo Māori). Nō reira, i runga i te āhuatanga ko te reo Māori te reo ako o ngā tamariki nei arotake rawa ā rātou mahi whakahaere i roto anō i te reo me te aha ko te whakatau, me te whakatū i te kāhui nei ki raro i te tāhū he taonga te kaupapa tuku iho hei tauira mo te reo me ōna tikanga katoa kia tīna. Inā koa, ko te ripoata tēnei o ngā whakautu e pā ana ki ngā ākonga o te tau 8 puta noa ki ngā whakautuutu e hāngai ana ki ngā ākonga Māori o te tau 8 i aromatahia ki roto o ngā kura o te motu (ahakoa ko te nuinga o ā rātou mahi me ngā akoako i mahia i roto o te reo tauīwi).

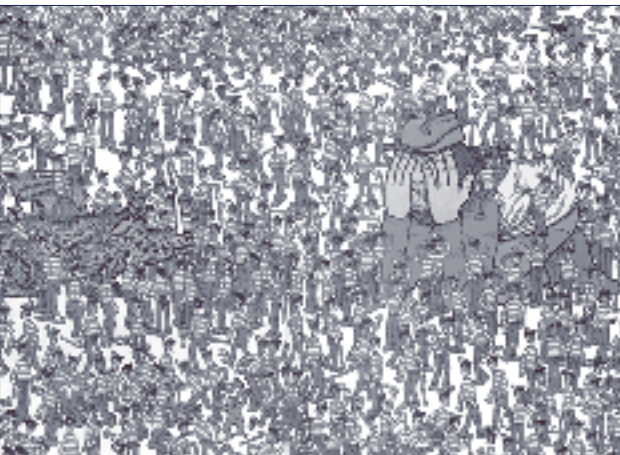
1: NGĀ MEA NUI

Ko te upoko tuatahi ko tōna tino kōrero he whāriki i te āhua o te whakanohonoho a te National Education Monitoring Project i tana kaupapa.

2: HE TAKE

Kei te upoko tuarua 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 tūtukitanga mātauranga o ngā ākonga Māori ki ngā kura rīroa ki ērā ākonga Māori kei ngā whakaakoranga rumaki reo Māori.

Tuatahi he take hei wananga arā ko te whiriwhiri me pēhea te whakamāori i ngā tohutohu me ngā rauemi o te reo tauīwi ki roto i te reo Māori. Otirā, ahakoa i tūtuki pai te whakatau a te rōpu tuawhiti arā kē atu te matatau a te rahi ka uaua tonu ngā kupu, me te āhua o te takoto o ngā rārangi kōrero hei mahi mā ngā ākonga. Āpiti atu ki tēnei



he take e kore e taea te karo ngā hou o te marautanga Māori, ā, me te mārama anō he mahi nui tonu tēnei te rangahau kupu hei whakarite i roto i te hiahia kia tūtuki aua mahi i roto o te reo o tauīwi me te reo Māori.

He take tēnei i kitea anō kāore i te tino pērā rawa te pakari o te reo Māori o ngā ākonga i ngā whakaakoranga



rumaki reo me te aha, me te mea anō kāore rātou i te tino mārama ki ngā tohutohu mō ngā tū mahi, ā, kāore hoki i te pai ā rātou whakamāramai roto i ā rātou whakautu. Kua tatū te pātai ki ngā kura rumaki reo mō ngā ākonga kua eke ki te tau tuawhā o taua kāhui hei aromatawai. Ka tīpakohia mai ētahi o ēnei ākonga mōhio hei uru atu ki te mahi arotake ā-motu. Otirā mātotoru ana te kitea o te uaua o ngā mahi mā ētahi o rātou i te whakawhitiwhiti kōrero i te reo Māori.

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 tūtukitanga mātauranga a ngā ākonga rumaki reo Māori. I tua atu o tēnei kei te hou tonu koia ngā kura nei. Hei ētahi, rua tau noa e tū ana. Āpiti atu ki tēnei, ruarua noa iho ngā rauemi hei mahi mā ngā kaiako e tino matatau ana ki te kōkiri i te kaupapa. Heoi anō, nā te pono me te ngākau nui o te nuinga o ngā kaiwhakāko, ngā mātua, me ngā tauira ako kia kapi ai ngā whāwhārua, ā, me te tūtuki o te kaupapa ko te mea nui kua takoto he huarahi hei whakapai, whakatipu, whakatinana, i tēnei tūmomo mātauranga mō ngā whakaakoranga rumaki reo Māori haumi ē.

3: PUKENGA MŌHIOHIO

Ko te upoko tuatoru ko tōna kaupapa hei whakaara haere i ngā whakautu i te inenga o te tipu o ngā pūkenga ki waenganui i ngā ākonga e pā ana ki te whakahoro kōrero. Ko te whakapae ko te tikanga kē mehemea kei ngā ākonga ēnei pūkenga, e toru tonu ngā āhuatanga hei mahi; te tuatahi ko te whakamārama i te māhukihuki mō ngā hua o aua pūkenga, āpiti ki tēnei, me mātua kaha ki te rangahau ki te whakakao kōrero, tāpiri anō ki tēnei ko te maia ki te whakatū pae kōrero mō te kaupapa ki runga o te rorohiko whakakao tonu i ngā pūkenga hei tātai tuarua atu i te kaupapa. Ko tōna āhua tēnei kia ikeike te eke ki runga i te taumata mātauranga ahurewa, ā, ko te ngāngau tuatahi, kei te tātai tuatoru, arā atu anō ko te rangahau kia hāngai, ā, kia kao aua whakamārama. Engari ko te tino matū me pēhea te whakamārama whaitake, hei tūtuki i ngā hiahia whai mōhiohio.

Otirā, tekau mā whā ngā mahi pūkenga mōhiohio i unuhia mai i ngā kāhui tamariki e rua, arā, ki ngā ākonga

4: TIKANGA-Ā-IWI



Ko te upoko tuawha ka hāngai tōna arotake ki te mātauranga o ngā māramatanga, me te āhua whakakao pūkenga a ngā ākonga i raro o tēnei kaupapa. Ko te tino take e pā ana ki ngā pūtake tikanga-ā-iwi mo te whakatū i te kaupapa ki te aroaro o ngā ākonga hei tautoko i ā rātou kia mātaratara ai tā rātou hīkoi i runga i ngā huarahi o te ao e huri nei, ā, me te whakapakari i te tū toa, whakawhiwhia rawa ki ētahi tikanga hei whakamāmā i ngā haere takakau ā-iwi. E whai hua ai te kaupapa, kei ngā ākonga te kaha ki

te whakahaipū māramatanga, tikanga, ā, ki te whai āhua hei atawhai i ō rātou takawaenga, me te whakatipu kia toitū ā rātou tāonga mō ngā āhua pūtaiao ōna tikanga katoa mō ake tonu atu. Tapiri atu ki tēnei ko te mātau kia tipu te pakari ō a rātou pūkenga mē te tuku ki waenga o te iwi.

He mea tuku ki te aroaro o ngā ākonga nei rua tekau mā rima ngā mahi i whakaritea hei mahi takitahi mā rātou ngā ākonga Māori i roto o ngā kura whānui me ngā whakaakoranga rumaki reo Māori. Ā, e rua tonu ngā mahi kāore i hāngai hei mahi te whakataurite o ngā kāhui e rua. Mō ngā mahi rua tekau mā toru kei te toe, he ōrite ngā putanga mō ngā kāhui e rua, te rōpū kura auraki me te rōpū whakaakoranga rumaki reo Māori hoki, i ngā mahi tekau mā rua. Mō ngā take i mahue, e ono o aua mahi neke atu te tōtika o ngā whakautu ā ngā ākonga o ngā whakaakoranga rumaki, e rima noa i neke noa atu te tōtika o ngā whakautu a ngā ākonga o ngā kura auraki.



Māori i ngā kura rīroa, i ngā kura rumaki reo Māori hoki. Engari i whakawākia, kāore e hāngai te whakataurite o ngā putanga i ngā kāhui e rua mō ngā mahi e rua. Inā koa, tekau ngā mahi hei whakatūturu kia eke atu ngā ākonga rumaki reo Māori ki ngā wāhanga e whā me te teitei ake ā-tāpua tauanga o aua ākonga o ngā kura rīroa ki te whakatinana i ngā wāhi e ono.

5: PĀNGARAU

Ko ngā whakamārama o te upoko tuarima ka hāngai tōna arotake ki te mātauranga, ki te mārama, me te whakapuke pāngarau. Ko te kōpua, whakaaro tonu tēnei e eke ai ki te taumata ako. Arā, ko te matū ā te ākonga ki te āta wānanga i ngā mahi, kia matenui ki te huahua o tōna mātauranga i raro o te tīni pūmanawa wawatatia ana kia āhei te ākonga ki te whakawhāiti ia hangarau ki tōna mutunga tūtuki noa ngā whakahaere mō te ao e huri nei. Inā koa, he tikanga tēnei kia mātau ki ngā take o ngā kaupapa me ōna pū arotake whakapakari i ngā ākonga kia whakaaro, ki ngā wānanga o aua whakaaro kia whai hua, te huarahi mō rātou kitea ana te māia ki te wero i te tara o te tao tatau, hāngai atu ki ngā whakarino o ngā whakamārama. Ahakoa he mea nui te māia me te kakama ki te maumahara i ngā meka matua, he aro nui hoki i te kaha whakaaro, whakamārama, te whakaoti rapanga. Nō reira, ko te wero nā, me whakawhanake ngā mahi huaki, hei whai wāhi mō te ākonga kia whakaatu ōna mōhiohio, kia whakawhiwhiti ōna whakaaro pāngarau, kia whakatau, whakamārama hoki.

E ono tekau mā toru katoa ngā mahi pāngarau i tukuna ki te aroaro o ngā

ākonga Māori ki ngā kura rīroa me ngā whakaakoranga rumaki reo Māori. E rima o aua mahinga he mea unu i runga i te whakaaro kāore i hāngai ki te whakataurite ngā hua ki puta mō ngā kāhui e rua nei. Otirā rima tekau mā waru i mahia, toru tekau mā whā o aua mahinga i ōrite te hōrapa o te tōtika o ngā whakahaere a ngā ākonga ahakoa te momo whakaakoranga. Teitei ake i te tāpua tauanga ngā putanga a ngā ākonga Māori kura rīroa i ngā mahi rua tekau mā whā i mahue. Ā, 30 orau te tatau kaute i takea mai i raro i te tāhū *Tatau*, 42 ōrau i raro i te *Inenga*, ā, 52 ōrau i takea mai i ētahi atu whenu (ko te *Ābuabanga*, te *Taurangi* me te *Tauanga*).



6: NGĀ TIROHANGA

Ko tā te upoko tuaono, he whakatakoto i ngā putanga o ngā tiro whānui i waenganui i ngā ākonga mō ō rātou hiahia i roto i te mātauranga, tāpae atu ko ō rātouwhakaaro mō ō rātou tūtukitanga me ō rātou pūmanawa nohopuku i roto i ngā kaupapa ako o ngā pūkenga mōhihio, ngā tikanga-ā-iwi, me ngā pāngarau.

I roto i ngā ako tekau mā rua te whakatau a ngā ākonga katoa ko te whakakori tinana i tino ngākaunuitia e rātou. I roto i ngā kura rīroa, ko ngā mahi toi ataata te mea teitei ake i whai ake, tuatoru tata ko te hangarau. Ahakoa te āhua tāwhitiwhiti o te nohonoho o ngā wawata otirā ko te pāngarau me te pūoro whakatangi i whai tōmuri tonu mai, ā, katahi anō ngā pūtake Māori me te pūtaiao. Ko te take tino toa rawa atu ki ngā ākonga rumaki reo Māori ko te pāngarau, ā, i te henga tōpuni, ko ngā toi ataata. Mō ngā take kei te toe, ko ngā pūtake Māori me te hangarau noa iho ngā mea kaingākau ki a rātou. Ākuanei koa te ako tikanga-ā-iwi iti iho te pirangi o ngā ākonga ki tēnei kaupapa ako; tērā pea ko te tino kaupapa i pēnei ai te noho ō rātou whakaaro nā te kuare ki te whakatakoto i te kaupapa nei hei ārai atu i a rātou ki te whakawhānui i ngā kaupapa kei te noho pōhēhē noa.

Ko ngā hua i āta kitea i te tirohanga pūkenga mōhihio, he iti iho ngā whai mātauranga i roto i te whare pukapuka, iti hoki te whaihua i te ipurangi a ngā ākonga Māori rumaki reo, ki te whakaritea o ērā i ngā kura rīroa. Ko te āhua ia e kitea ana i waenganui i te iti me te rahi ko te hanga āhua kia pakari te whakatūtuki i ā rātou rangahau me

te whakakao kōrero i raro i te ringa tohu o ō rātou hoa, kaiwhakaako me ō rātou mātua. Ahakoa kāore he kanohi kitea mō ō rātou nā pakari ki te whakakao kōrero i runga o te rorohiko, āpiti atu ana ki tēnei ko te whakapai kāore e taea ēnei mahi nā te potu i te pukapuka whakatinana hua, pukapuka pūrakai i roto o te reo, i runga i te rorohiko hei mahi. Ko ngā whakautu a ngā ākonga o ngā whakaakoranga rumaki reo Māori i nanakia ā rātou rangahau, ā, i tika anō tā rātou rangahau, i aua kōrero mō aua kaupapa, ā, me te tūtuki pai, otirā i te ngākau nui o te tira ki te mahi nui me te tuhituhi. Nui ake i te hāwhe o te kāhui ākonga rumaki i kapi te nui o ngā whakautu me te ngākau nui kia māhaki te tū i runga i ngā kaupapa maha o ngā kōrero i kitea ahakoa kāore i rite te nui o tōna whānui i waenganui o te 25 ōrau o ngā ākonga o ngā kura rīroa i eke tonu ki runga ō ēnei whakaaro.

Ko ngā āhuratanga i puta ake ki roto o ngā whakautu i raro o te kaupapa tikanga-ā-iwi, kia pakari ngā tamariki o ngā whakaakoranga, kura rumaki Māori mō ngā ākonga Māori ā kura rīroa ki ngākau hauora ai te mahi i te kaupapa tikanga-ā-iwi, me te mahi haere i taua kaupapa ahakoa kua tū kau kē ētahi o rātou. Anō ko ngā pātai e waru i kohia hei mahi i raro i te maru o te kaupapa tikanga-ā-iwi, ko te pātai i pokea e ngā ākonga arā, kia hāngai ō rātou whakaaro ki te whakarārangi kōrero hei oranga tautoko i te kaupapa 67 ōrau mā ngā ākonga huihui rawa ngā whakaaro i raro i te tāhū o ēnei kōrero, otirā e whitu ngā pātai e whā i whakautu me te huihui ō rātou whakaaro ki raro i te 30 ōrau oranga nui. I

kaha mai anō ngā ākonga ō ngā whakaakoranga rumaki reo Māori ki te whakahoki mai i ā rātou whakautu ki runga i ēnei take e rua, (arā, ko te hanga āhua mo te mahi a te tangata, o te rōpu, me te āhua whakaputa oranga), ahāuna anō i whakaara mai ētahi ngoikore o ngā ākonga ki te whakautu i te patai pēhea rā te noho a te tangata i ngā rā o mua. He pātai anō ki a rātou e pā ana ki te āhua hōngoi o te whakako o aua take i te mahi tikanga-ā-iwi. E ai ki a rātou te kāhui rumaki reo Māori, he maha ngā tūtuki pērā. Otirā e waru ngā take, e whitu ngā mea i tohua e ngā ākonga “tino maha”, me “āhua maha”; e rua noa iho ngā take tino pai ki te kāhui ākonga Māori i ngā whakaakoranga rīroa.

Ko te wehewehenga o ngā whakautuutu mō ngā rōpū e rua i raro o te kaupapa pāngarau. I pātaitia e pā ana ki ngā ngohe akomanga, tino hiakai rātou ngā ākonga Māori rumaki i ngā tau whakamātautau, whakataetae me te tuhi i ngā mahi kia tūtuki i roto o ngā pukapuka, engari ruarua noa iho nei te hunga i noho kakama ki te whakatātū i a rātou mahi rāpanga me ngā mahi panga. Ko te ako meka matua me te papatai whakarea te tino autai i ngākaunuihia. Tekau mā tahi o ngā pātai i whakatakotohia ko te pāngarau i wawatatia kia neke atu aua mahi i runga o ngā mahi katoa. I tua atu o tēnei neke noa atu te kaha o ēnei o ngā ākonga ki te mahi pāngarau, kia mātua ki ngā pūkenga, hāngai tonu te mārāma ki ngā whakaaro a ō rātou kaiwhakaako me ō rātou mātua.

Tihe Uriuri Tihei Nakonako. Whakatau hā te whakatau!

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 2001, the areas covered were information skills, social studies and mathematics.

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.

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 involved the translation of task instructions and materials from English to Māori. While this was done with considerable care by a team of seven experienced people, some of the resulting translations used vocabulary or language structures that would not have been easy for all immersion students to understand. To some extent this is exacerbated because the various Māori curriculum documents are quite new, but it will always remain a challenge to find natural language in both English and

Māori that communicates exactly the same task requirements.

A related 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 at times with communication in Māori.

Other important issues affecting interpretation of the results are the different curriculum emphases in Māori immersion schools and classes

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 2001, 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 of students learning predominantly in Māori, 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.

and the often 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 can be anticipated as Māori immersion education grows and consolidates.

3: INFORMATION SKILLS

Chapter 3 presents results of the assessments of students' information skills. Students possessing well developed information skills can perform three main tasks effectively: clarifying information needs, finding and gathering relevant information, and then analysing and using that information to meet the required purposes. A substantial proportion of the intellectual demands occur during the first and third of these tasks: finding and gathering information is clearly important, but its value is greatly dependent on the extent to which it can be validly interpreted and used to meet information needs.

Fourteen information skills tasks were administered to individual Māori students in both general education and Māori immersion settings. Four of these tasks were judged to be unsuitable for comparisons of the performance of the two groups of students, for reasons explained in the



task commentaries. Among the remaining ten tasks, Māori students in general education and students in Māori immersion settings performed equally well on four tasks, while Māori students in general education scored statistically significantly higher on six tasks.

4: SOCIAL STUDIES



Chapter 4 presents results of the assessments of students' knowledge, understanding and skills in social studies. The stated aim of social studies education is to enable students to participate in a changing society as informed, confident and responsible citizens. To help achieve this outcome, students are expected to acquire knowledge that will inform and contribute towards their understandings about responsibilities, relationships, culture, heritage and management of the environment and

resources. They are also expected to develop the skills needed to live and contribute as effective and worthy members of society.

Twenty-five social studies tasks were administered to individual Māori students in both general education and Māori immersion settings. Two of these tasks were judged unsuitable for comparisons of the performance of the two groups of students. Among the remaining twenty-three tasks, Māori students in general education and students in Māori immersion settings performed equally well on twelve tasks. Students in Māori immersion settings scored statistically significantly higher than Māori students in general education on six tasks, while Māori students in general education scored statistically significantly higher than students in Māori immersion settings on five tasks.

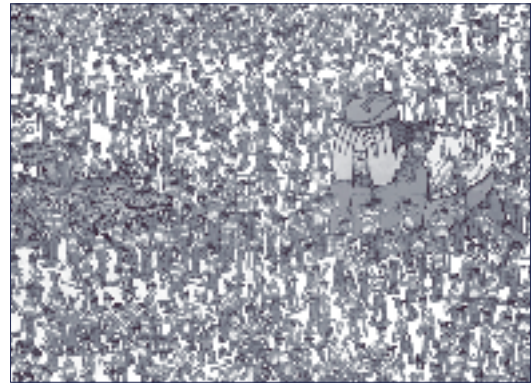


5: MATHEMATICS



Chapter 5 presents the results of the assessments of students' knowledge, understanding and skills in mathematics. Conceptual understanding is a central goal of mathematics education. Mathematics education is very much concerned with such matters as students' confidence, interest and inventiveness in working with a range of mathematical ideas. It aims to help students develop their capacity for exploring, applying and communicating their mathematical understandings within real-world contexts. While confidence and efficiency in basic knowledge of facts is important, a substantial focus is also placed on thinking, reasoning and problem-solving skills, requiring more open tasks that allow students to demonstrate their number sense, reason, make decisions and explain.

Sixty-three mathematics tasks were administered to individual Māori students in both general education and Māori immersion settings. Five of these tasks were judged to be not suitable for comparisons of the performance of the two groups of students. Among the remaining fifty-eight tasks, Māori students in general education and students in Māori immersion settings performed equally well on thirty-four of the tasks, while Māori students in general education scored statistically significantly higher on the remaining twenty-four tasks. These higher scores occurred on 30 percent of the tasks in the Number strand, 42 percent of the tasks in the Measurement strand, and 52 percent of the tasks in the remaining strands (Geometry, Algebra and Statistics).



6: SURVEYS

Chapter 6 reports the results of surveys of students about their curriculum preferences and their perceptions of their achievement and potential in information skills, social studies and mathematics.

Physical education was the most popular of twelve subjects, for both groups. For Māori students in general education, art came next, followed fairly closely by technology and more distantly by mathematics and music, then Māori and science. Students in Māori immersion settings placed mathematics much higher, just ahead of art, with only Māori and technology showing substantial popularity among the other subjects. Social studies came lower for both groups, but this may be misleading because social studies is often embedded in theme work and not easily identified as social studies.



The Information skills survey showed that, compared to Māori students in general education, the students in Māori immersion settings were much less likely to try to find information in a library and somewhat less likely to search on the Internet. Conversely, they were much more likely to ask a friend, teacher or parent. They were substantially

less likely to have used a computer catalogue, probably reflecting the limited availability of fiction and non-fiction books in the Māori language. The students in Māori immersion settings indicated that they more frequently had really interesting studies to find information for, were more positive about hunting for information and their ability to do so, and also were more positive about sharing their information with others or writing it down. More than half indicated that they voluntarily looked for information “heaps” or “quite a lot”, compared to only 25 percent of Māori students in general education.

The social studies survey showed that, compared to Māori students in general education, students in Māori immersion settings were much more positive about doing social studies at school, doing more social studies at school, and learning or doing more social studies as they got older. In response to questions about eight different aspects of social studies education, Māori students in general education were particularly interested to learn about “living in the future”, with 67 percent choosing the highest rating, but four of the other seven aspects had more than 30 percent of students choosing the highest rating. Students in Māori immersion settings were even more positive, with more than 30 percent of students choosing the highest rating on six of the eight aspects. Compared to Māori students in general education, students in

Māori immersion settings were substantially more positive about two aspects (the way people work together and do things in groups, and the work people do and how they make a living), and substantially less positive about one aspect (how people lived in the olden days). When asked to rate how often they learned about each aspect in social studies at school, students in Māori immersion settings generally gave higher ratings, with seven of the eight aspects having more than 50 percent of students using the ratings “heaps” and “quite a lot”, compared to just two aspects for Māori students in general education.

The mathematics survey also revealed some interesting differences between the two groups. Asked about mathematics class activities, students in Māori immersion settings were much more enthusiastic than their general education counterparts about doing maths tests, taking parts in maths competitions, and working in their maths book, but dramatically less enthusiastic about working on maths problems and puzzles. They generally placed much more emphasis on learning basic facts and tables. Their responses to 11 rating items indicated that they were much keener to do increased amounts of maths at school, and enjoyed doing maths at school substantially more. They also were more positive about their own capabilities in maths and about how good their teachers and their parents thought they were at maths.