He Ara Angitu

A Description of Literacy Achievement
for Year 0 - 2 students in
Total Immersion in Māori Programmes

A Report to the Ministry of Education

2001

C. Rau, I. Whiu, H. Thomson, T. Glynn, W. Milroy.

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A Pathway to Success

Ngā mihi kau ana ki ngā ringaringa me te tūtakinga i tēnei mahi hei huarahi anō mō o tātou kaiako, ngā whānau me a tātou tamariki mokopuna.

Forest Lake School	Hamilton
Te Kura Kaupapa Māori o Tōku Māpihi Maurea	Hamilton
Te Kura Kaupapa Māori o Te Ara Rima	Hamilton
Te Kura Kaupapa Māori of Bernard Fergusson	Ngāruawāhia
Te Wharekura Ā Rohe o Rākaumanga	Huntly
Te Kura o Ngā Tapuwae	Māngere, Auckland
Te Kura Kaupapa Māori o Māngere	Māngere, Auckland
Rongomai School	East Tamaki, Auckland

Ko ngā ringawera ko:

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Ko te kairapu, ko ia te kite

He who seeks will find

EXECUTIVE SUMMARY

He Ara Angitu - A description of literacy achievement for Year 0 -2 students in total immersion in Māori programmes.

In response to the recommendations of the Literacy Taskforce Report (1999) and issues highlighted in the Green Paper - Assessment for Success in Primary Schools (1998), the Ministry of Education funded a project in 2000 and 2001 to develop a description of achievement in reading and writing for five-year-old Māori medium students.

This provided the opportunity to take a systematic comprehensive look at children's literacy performance during the first two years of instruction and begin to identify reasonable expectations of progress in reading, written and oral language.

The Project Team

This project represents a collaborative effort between teachers and students in eight schools in the South Auckland and Waikato areas, Kia Ata Mai Educational Trust (Māori medium literacy specialists) and the University of Waikato.

The Project

The purpose of this project was to collect data from literacy testing in Māori medium contexts and use it to inform expectations about patterns of achievement and variability during the two years of schooling. The project, originally designed to focus on students' performance in *pānui* (reading), *tuhi* (written language), was expanded to also include *kōrero* (oral language).

Research Questions

The following are the main questions that guided and shaped the development of *He Ara Angitu (A Pathway to Success)* as a framework for describing and tracking the literacy achievement of year 0 – 2 students in total immersion programmes.

1. What does the reading performance of year 0 – 2 students in total immersion programmes look like?
2. What does the written language performance of year 0 – 2 students in total immersion programmes look like?
3. What does the oral language performance of year 0 – 2 students in total immersion programmes look like?
4. How do we determine when students are achieving in literacy?

Research Methodology

Over a ten month period in 2000 to 2001, year 0 - 2 students were assessed at least once per term in reading using *pānui haere,* (running records), *te tāutu reta,* (letter identification) and *te whakamātautau kupu* (word recognition) assessments. These measurements were used to identify an instructional *Ngā Kete Kōrero* reading level for each student.

Written language samples were also collected from students at each respective testing point and formed the basis for the development of *Ngā Kete Kōrero* writing levels.

Kī Mai – the oral retelling activity from the school entry assessment *Aromatawai-Urunga-ā-Kura,* (Ministry of Education, 1997) was used with year 0 students to provide a means of exploring the relationship between literacy achievement and oral proficiency in Māori.

The research methodology employed for the project was consistent with the expectations of working within a *kaupapa Māori context.*

Outcomes

The following were developed as a direct result of this project.

In *Pānui* (Reading)

1. A graph that defines the band of success for children learning to read in the medium of Māori for a sample of children from eight schools in the South Auckland and Waikato areas. It enables the progress of an individual or individuals over time, to be plotted

2. Guidelines for using the letter identification and word recognition tasks from *He Mātai Mātātupu* (Rau, 1998) as a predictor of possible instructional level

In *Tuhi* (Written Language)

3. A set of descriptors and exemplars that enables the classification or levelling of children's writing using a modified version of *Ngā Kete Kōrero* levels developed from earlier research in reading

In *Kōrero* (Oral Language)

4. An analysis of the oral language task *Kī Mai* (Ministry of Education, 1997) and collection of evidence that suggests a positive link between oral language competency and reading progress.

The Way Forward

The way forward for *He Ara Angitu* is encapsulated in the following recommendations:

1. That research be undertaken immediately using the same children in the sample for *He Ara Angitu* to extend the definitions of success beyond 17 months in total immersion

2. That the definitions of success developed in *He Ara Angitu* be trialled in schools (preferably those that participated in the study) to

- Determine how they might be integrated into current school assessment practices,
- Evaluate their usefulness and effectiveness,
- Begin developing a corpus of specific language to describe and interpret children's achievement under the definitions of success
- Explore what other information can be extracted to provide comprehensive coverage of achievement for groups of children
- Identify effective and appropriate processes so that the definitions of success might be introduced to other schools

- Further trial and develop the writing descriptors and train teachers in their usage

3. That the definitions of success developed in *He Ara Angitu* be subjected to further rigorous cultural scrutiny

4. That the definitions of success developed in *He Ara Angitu* be subjected to further rigorous academic scrutiny

5. That research be undertaken to determine the extent to which the definitions of success developed in *He Ara Angitu* generalise to schools outside the South Auckland and Waikato areas

6. That research be undertaken urgently to develop effective ways of assessing changes in oral language competency over time, with the view to producing even more robust and comprehensive definitions of success in literacy

INTRODUCTION

Māori and research in education

There is an abundance of evidence documenting the underachievement of Māori in English medium educational settings. A report of the proceedings from a *wānanga* held to discuss issues related to building the research capacity within Māori communities identified the need for research to 'illuminate' Māori achievement rather than focussing on and overemphasising underachievement. (Tapine & Waiti, 2000). This principle also needs to underpin research undertaken in relation to Māori medium programmes.

Kura Kaupapa Māori in particular are somewhat wary about research taking place on their sites and of researchers in general. This stems from past experiences where much research has been conducted in these settings with little direct or indirect benefit to the participating schools or immersion education in general. In most instances, research is initiated and conducted by outside parties rather than by the school itself and has merely contributed to deficit theorising about Māori. Ethical and cultural frameworks and research protocols for a variety of contexts are now well documented, providing direction about who should conduct *Kaupapa Māori* research, for whom, how and why. (Bishop & Glynn, 1999; Henry, 1999; Cunningham, 1998; Durie, 1998; Royal, 1998; Bevan-Brown, 1998; Chapple, Jeffries & Walker, 1997; Mead, 1996; Irwin, 1994; Smith, 1992.

To date, little research has been conducted that is centred on the systematic collection and analysis of data charting children's progress and achievement in the medium of Māori. (Hollings, 1992; Report of the Literacy Taskforce, 1999; Berryman, Rau & Glynn, 2001).

Māori medium and descriptions of achievement

Descriptions of achievement in literacy for cohort groups being instructed in Māori are being developed under such Ministry funded initiatives as National Education Monitoring Project (N.E.M.P.) and *Te Reo* Proficiency Test. These reflect the former Government's provision for achieving the goal "by 2005, every child turning nine will be able to read, write and do maths for success" (Report of the Literacy Taskforce,

1999). On a national scale, such information about children receiving instruction in Māori in their formative years of compulsory education is nonexistent. This presents the incongruous situation in Māori medium education where decisions about what 'success' looks like at (or after) nine years of age, are being made before we have even begun to formally develop a definition of success for children in preceding years.

It is acknowledged that compared with English medium education, Māori medium is still in its infancy (Rau and Berryman, 1999; Education Review Office, 2001; Bishop, Berryman & Richardson, 2001). Despite this, approaches tend to favour parallel concurrent development as the most expedient and efficient way to support Māori medium programmes and alleviate the heavy teacher workload associated with working in these settings. As a result, educational priorities determined for English medium tend to drive those for Māori medium. This is seen at various levels in many recent educational initiatives. These include the provision of Resource Teachers of Learning and Behaviour, the development of Literacy and Numeracy Instruments for Students in Year 5 and Year 7 and *Aromatawai Urunga Ā Kura,* School Entry assessment. There is obvious fiscal advantage to be gained from this type of approach as well as the mutual benefit that potentially can result from the cultural and linguistic interchange and the sharing of knowledge and information. However this approach is still based on the assumption that this is what Māori medium education needs most at this time.

Consistent with this is the pressure being exerted from various quarters to emulate practices developed for English medium in the development of an assessment framework in literacy for Māori medium. Information collected during *Ngā Kete Kōrero* research (1993 - 1995) for example, revealed the diverse ways schools were choosing to organise material into increasing levels of difficulty and as a basis for measuring progress in Māori. These included the adoption by some schools of the colour wheel, (the method by which text level is represented in junior reading material in English) and the (arbitrary) assigning of English medium reading ages, to texts written in Māori. In these instances where pedagogical and cultural compatibilities are assumed, issues of validity and reliability have been compromised.

The Literacy Taskforce (1999) in dealing with the notion of 'success in literacy' stated that 'the expectations of all children should be the same regardless of the language of instruction or their ethnicity'. It further acknowledged that 'procedures and approaches for achieving success (at nine) for children in Māori medium may well be different from those in English-medium education' (Literacy Taskforce Report, 1999, p.7). What the report did not articulate clearly however, was that 'success' may not necessarily be defined nor measured in the same way by or for Māori medium education.

The development of a pedagogy for Māori medium

Some Ministry of Education initiatives such as this research project provide the opportunity to explore and develop responses that are anchored in a 'Māori' world view without necessarily duplicating or having to be compatible with those developed for mainstream education. Part of the challenge in achieving this however is trying to determine what we mean by a Māori worldview in education (pedagogy). Evelyn Stokes (1985) provides some guidance:

> *It cannot be assumed that there is a uniform Māori view on things. Opinions and attitudes are just as varied and contradictory in the Māori world as they are in Pākehā society.* (p.7).

as does Cunningham (1998) who acknowledges:

> *The dimensions of future Māori knowledge must take cognisance of a contemporary Māori worldview and acknowledge the substantive heterogeneity which now exists among Māori. Māori are now more culturally and socially diverse than in any point in the past.* (p. 396).

Māori pedagogy as it applied in traditional and historical contexts is well documented in various sources including (Makareti, (1938)' Pere, (1982), Metge, (1983), Best (1986), and Hemara, (2000). Contemporary definitions of Māori pedagogy are being shaped via efforts to successfully blend traditional Māori views of learning and teaching with modern principles and practices evolved directly from those valued by the colonising culture in this country. As succinctly and aptly put by Henry (2000) when describing the impact of colonisation:

> *. . . traces of the traditional culture resonate in contemporary Māori* (sic) *beliefs and practices. The resilience that this culture manifests is evidence of its ongoing relevance and importance for Māori* (sic). (p. 8).

The Education Review Office argues that a professional community where pedagogical issues are debated and shared has not yet developed (unpaged, 2001). This suggests, incorrectly, that Māori pedagogy is developing in a vacuum. Teachers will often rationalise and theorise to colleagues about their behaviour and practice from a Māori perspective given conditions that are conducive to this sort of exchange occurring. This can include discussions that take place at school staff and syndicate meetings, interviews conducted for research purposes as demonstrated by the Bishop et al (2001) study and Māori medium specific professional development *hui*. Even attending English medium specific in-service will lead teachers from Māori medium to synthesise and analyse information in relation to personally held definitions of Māori pedagogy and discard, adopt or adapt this information accordingly.

All schools funded by the government are obligated to conform to the National Curriculum Framework that 'sets out national directions for schooling and provides for consistency in classrooms' (Ministry of Education, 1993). Pedagogical practices are therefore expected to be aligned to curriculum requirements documented in the curriculum statements covering the essential learning areas. While these statements were also developed in Māori, in reality the majority largely parallel those developed to support English medium programmes as the co-ordinator for the development of the *Pūtaiao* (Science) curriculum statement admits:

> *The curricula that are being done currently do not give Māori a real valid say. Although currently curricula are written in Māori, we did not have any say in what knowledge was included. We had the opportunity to translate the achievement objectives, which is what kids have to know, and we had the chance to put our own learning experiences and assessment examples in, but we didn't get the chance to negotiate what the kids actually had to learn. Hopefully when the next curriculum review takes place we will have that chance and not only get curricula that are written i roto i te reo (sic), but get a curriculum that is written from a Māori worldview.* (Waiti, 2000, p. 71).

The sentiments expressed by Waiti can also be applied to the *Reo (Māori language)* statement which along with *Pangarau* (Mathematics) statement, closely mirrored the English language documents.

Variations in Māori medium programmes

Māori medium education is a generic term used to cover alternatives for receiving instruction in *te reo Māori.* In the primary school sector, it is a mistake to think that this implies uniformity or some form of standardisation. Options, which can vary from community to community include single classes or units operating within a mainstream setting, to total immersion schools to *Kura Kaupapa Māori* who subscribe to *Te Aho Matua,* a philosophical document, to *Kura Kaupapa Māori,* who are seeking alternative status. They also cover a gamut of language mixes from 0-30% Māori to English instruction to 80 – 100% as well as diversification in terms of degree of deviation from mainstream English medium practice.

Most schools offering programmes where Māori is the, or one of the languages of instruction, are also catering for children who upon entry to school can be classified into distinct and disparate language groups as follows in table 1.

Table 1. Language groups enrolling in Māori medium programmes at year 0

1. Children for whom Māori is their first and only language
2. Children who have mixed competencies in more than two languages
3. Children who have dual capacity in both English and Māori (infant bilinguals)
4. Children for whom English is their first language but also have some competency in the Māori language (elective bilinguals)
5. Children for whom English is their first and only language and who will begin their Māori language learning at school[1]

Empirical evidence suggests that the last two groups form the majority of the new entrant population in schools while the first three are very much minority groups. Demographically, these groups of children are also unevenly located. For example, some schools and/or classes might have a high proportion of infant bilinguals such as can be found in pockets in the Bay of Plenty (e.g. *Tūhoe* tribal area) and Northland (e.g. at Matawaia) while others might comprise only of English language dominant children and others again might be receiving children from all five language groups.

[1] These children are likely to eventually become members of language group four above

Measuring achievement in Māori medium classrooms

A barrage of initiatives[2] designed to support teaching and learning in the Māori language has been introduced into schools in recent years. The development of *Ngā Kete Kōrero* Framework[3] in particular has led to the emergence and promulgation of a range of Māori medium specific theory and practice, teaching resources, learning materials and assessment procedures in literacy. Increased demands for quantitative and qualitative evidence of student progress and achievement have placed huge pressure on Principals and teachers given the fledgling nature of both Māori medium programmes and the literacy initiatives designed thus far to support them.

In the absence of a shared definition of success, schools are left to develop the terms of reference for determining and describing the adequacy of student performance for themselves. This is supported by the findings of a report on literacy in *Kura Kaupapa Māori* by the Education Review Office (2001).

Compensatory measures include applying or adapting benchmarks for success developed for English medium education and using these inappropriately to interpret and describe the achievement of students in Māori medium. Durie (2001), challenges the practice of comparing Māori with non-Māori and the use of non-Māori benchmarks to gauge Māori progress while schools themselves will readily admit that this is a far from satisfactory situation. It should be noted however, that senior management in some schools particularly where Māori medium classes may be operating on a mainstream site, are most insistent that progress in Māori be represented and interpreted in English medium terms and refuse to accept that ways of learning or ways of measuring may be different but equally valid for the Māori language and culture. Continued support and the future existence of such classes is often contingent upon the performance of students learning to read and write in Māori according to standards developed for students learning to read and write in English.

[2] These are documented in *New Zealand Education Gazette* and its supplementary *Resource Link* published for the Ministry of Education

[3] *Ngā Kete Kōrero* framework research (*Ngā Kete Kōrero* Framework Team,1995) developed a means of organising reading material for reading instruction into increasing levels of difficulty. This enabled reading progress in Māori to be measured in terms of gains in difficulty level

Alternatively, schools are developing their own benchmarks, often in isolation from and without the benefit of some sort of moderation process. This invites the risk of standards being unrealistically too high or conversely, too low. In the first scenario, a disproportionate number of children may be perceived to be 'failing' and the second may present a false picture of achievement especially where the programmes may in actual fact be of poor quality.

Extensive observations in the field suggest however that most schools are in fact still concentrating on issues related to the delivery of literacy instruction in Māori and have yet to turn their attention to addressing literacy expectations for their students. Whether motivated by curiosity and a need for affirmation or fuelled by a desire to improve educational outcomes, schools do want to know how they and their students are faring in relation to their cohorts in schools that have been shaped by similar educational and pedagogical philosophies and are operating comparative programmes in Māori. They want feedback about their performance. They want to be able to judge and evaluate the quality of the teaching and learning experiences they are providing. They also however would like to conduct these investigations discreetly and with a degree of anonymity in preference to having such information circulated in the public arena. This reflects a desire for more personal space to work toward excellence of literacy provision, to avoid what they perceive as the premature application of deficit labels before they have had reasonable opportunity to develop and improve. This needs to be carefully balanced with external demands for accountability.

Frameworks of literacy achievement for Māori medium must take cognisance of all of these factors and respond appropriately to the complexities operating and impacting on teachers, on children and on programmes.

In response, the description of achievement in *pānui* (reading), *tuhi* (writing) and *kōrero* (oral language) formulated for year 0 – 2 Māori medium students from this project will therefore be developed in light of the following principles presented in table 1.

Table 2. Principles for development of an achievement framework for Māori medium

1. Should be consistent with the New Zealand Curriculum Framework[4]

2. Must be derived from and be commensurate with a Māori worldview

3. Should inform and be informed by Māori pedagogy which is dynamic, still evolving, developmental in nature and multidimensional

4. Should illuminate Māori achievement and aspirations

5. Should be able to be used with reliability and confidence by the variety of options represented by the term Māori medium

6. Should be responsive to children from the five differing language backgrounds described earlier

7. Should yield useful information for schools and establish a platform for evaluating the effectiveness of programmes and improving delivery

8. Should use assessment procedures validated for Māori medium and which are preferably used (or likely to be used) by classroom teachers as part of their regular classroom assessment regiment.

9. Should not be prescriptive but treated as the start of the development of a range of appropriate responses

[4] If we are serious and genuine about the rights of Māori to self-determination, in the event that the National Framework is incompatible with Māori pedagogy, then the framework should be altered to accommodate the Māori pedagogy rather than the reverse.

PURPOSE OF THE PROJECT

The purpose of this project was to collect data from literacy testing in Māori medium contexts and use it to inform expectations about patterns of achievement and variability during the two years of schooling. It is envisaged schools might use this information as a terms of reference to reflect upon the learning paths of their own students and evaluate the effectiveness of programmes operating in the school.

RESEARCH QUESTIONS

The following are the main questions that guided and shaped the development of *He Ara Angitu (A Pathway to Success)* as a framework for describing and tracking the literacy achievement of year 0 – 2 students in total immersion programmes.

1. What does the reading performance of year 0 – 2 students in total immersion programmes look like?

2. What does the writing performance of year 0 – 2 students in total immersion programmes look like?

3. What does the oral language performance of year 0 – 2 students in total immersion programmes look like?

4. How do we determine when students are achieving in literacy?

THE PARTICPANTS

The schools

Eight schools within the Tainui tribal area, in South Auckland, Northern Waikato and Hamilton areas participated in the project, providing the sites for testing. These included four schools designated *Kura Kaupapa Māori*, one *Wharekura*, one total immersion school and two total immersion units operating within a mainstream school. Seven of the eight schools are decile one. While the eighth is designated decile three, most of the students actually reside outside the school zone.

Five of the eight schools are located in urban areas; one in a small town and one is classified semirural. In all cases, Māori is the sole language of instruction in the year 0 to year 2 literacy programme.

The students

The study involved a cross section of children represented by an age range of five years to six years and five months by the final probe. Numbers in the sample increased over time as new entrants enrolled in the participating schools even as some children left the schools in the sample to attend other schools. No new entrants were included for the fourth probe as only one set of data would be able to be collected for them. The slightly lower numbers of participants in the fourth probe reflect a loss of children to other schools at some stage.

Probe one	88 children
Probe two	127 children
Probe three	145 children
Probe four	140 children

The sample included one child who had mixed competencies in English, Māori and Niue and two children who were beginning their Māori language learning at school. Sixteen children or approximately 11% of the sample were classified infant bilinguals. Twelve of these children were located in one school and comprised the total sample from that school. The remaining four children were spread across two other schools. Approximately 86% of the sample therefore was made up of children for whom English is their first language and who also, upon entry to school had varying degrees of competency in Māori language. There were no children in the sample for whom Māori is their first and only language. Thus, four of the five language groups described earlier in table 1 were represented in this sample.

The two 'English only' speaking children attended an English speaking kindergarten/preschool while most of the remaining children attended *kōhanga reo.* The Māori language competencies of the majority group were largely influenced by the following factors listed in table 3, related to their early childhood education experiences.

Table 3. Factors affecting Māori language proficiency of year 0 students from *Kōhanga Reo*

1. The length of time the child spent at *Kōhanga Reo* prior to attending school
2. The regularity of attendance of the child at *Kōhanga Reo*
3. The quality of the language programme operating at the *Kōhanga Reo*
4. The ability and availability of family members to support the child's Māori language acquisition in the home

The teachers

Information was returned from seven of the eight teachers working in the targeted classes for the first three probes.

Two were native fluent speakers of Māori, the remaining five, second language learners of Māori. Three had 1-2 years of teaching experience all of which had taken place in junior classes. Three had been teaching 3-6 years. For two of these teachers this had been exclusively in junior classes, while the remaining teacher had less than two years junior experience. One of the teachers had nine years teaching which comprised nine years at the junior level, six of these in total immersion.

At the fourth probe in the first term of the 2001 school year, three of the participating teachers were still working in the same school with year one and two children, three had been moved to teach older children in the same school and one had left and taken up a new teaching position in another school in another area.

The research team

The research team comprised two researchers/Māori medium literacy specialists, Cath Rau and Iria Whiu from Kia Ata Mai Educational Trust who collected analysed and interpreted data, Professor Ted Glynn (School of Education/University of Waikato) who provided advice about project design and assisted with the representation of the data and their interpretation, Hone Thomson (Kia Ata Mai Educational Trust) who processed and managed the data and Professor Wharehuia Milroy (University of Waikato) who was cultural advisor to the project and assisted in formulating rationales and perspective regarding a Māori world view.

METHODOLOGY

Every effort was made to ensure a Māori perspective was the central focus in all aspects of the project. This guided decisions about such things as assessment selection and design, interactions with the participants (staff, children and *whānau*), as well as the representation and interpretation of data. Applying a 'Māori' rationale in theorising had priority over any consideration of, or reference to, theorising derived from Western European pedagogy. This does not of course discount the influence one has had on the other up to this point. (Refer to previous discussions).

The researchers for this project were determined that the relationship be mutually beneficial. This is in line with the research protocols for *Kaupapa Māori* detailed in the literature. To this end the principle of *whakahau*[5] or reciprocity was applied. The *whakatauki* (proverbial saying):

Ko tāu rourou,	Your contribution and
Ko taku rourou…	my contribution
Ka ora tātou	will nourish us all

epitomises the association of mutual contribution and benefit between the school, the researchers and the project and establishes a relationship of equi-balance between the participants.

In 'exchange' for access to students and relevant information, the participating schools were provided with exclusive professional development in *He Mātai Mātātupu*[6], the official reconstruction of Marie Clay's Observation Survey of Early Literacy Achievement. This comprised cluster *hui* as well as in-school support for the teacher of students in their second year of school.

Empowering schools was also an intention of the research design. As Bishop and Glynn (1992) advise:

[5] The application of this term in this context was discussed with Professor Wharehuia Milroy. It is acknowledged by this study as a legitimate *Kaupapa Māori research* protocol

[6] *He Mātai Āta Titiro Ki Te Tūtukitanga Mātātupu Panui, Tuhi.* This assessment is currently unavailable. Negotiations are underway with the Ministry of Education for professional development to accompany its distribution.

> *The community's own knowledge ought to be increased by sharing the information it has helped to collect. The community should thus be empowered by the research process. The community may learn new ways of framing research questions it believes are important and new ways of answering those questions as well as gaining specific information.* (p. 131).

The project provided a platform for building teacher capacity. The researchers passed on copies of assessment results to the classroom teacher, and made themselves available to deal with teacher queries about their literacy programmes and/or individual children. Open invitations were made for teachers to observe the assessments administered by assessors well versed in their administration[7]. Teachers could then at least begin to incorporate the assessment procedures into their own classroom assessment schedule or if they were already using them, check that they were administering them correctly. In this way teachers were provided with models of effective practice.

Children aged five to five years and eight months were targeted for the first testing point. Ages at each testing point were recorded in years and months. Any children enrolling at age five after this were then also included in the sample. Testing took place over ten months from June 2000 until April 2001 and comprised a total of four probes conducted either near the end or at the beginning of the school term. Testing took place at approximately two to three month intervals, the longest break of four months occurring over the 2000 Christmas – New Year's break

THE ASSESSMENT INSTRUMENTS

The following standardised assessments were used to test children in reading, writing and oral language. They also involve children in authentic tasks meaning that they very closely mirror the types of literacy activities children are likely to engage in during the course of normal classroom instruction.

*Pānui (*Reading)	*Pānui Haere/* Running Records
Tuhi (Writing)	Levelling writing samples
Kōrero (Oral language)	*Kī Mai/*Tell me

[7] One of the researchers was in the groups responsible for the Māori reconstruction of all of the assessment tasks used, the second, for three of the four.

These procedures are described in the following sections. Refer to Appendices 1, 2, 3 and 4 for examples of the score sheets used during the administration of the reading, writing and oral language assessments for one child in the sample.

Pānui

According to McNaughton, Phillips and MacDonald (2000), reading level is arguably the most significant index for judging early progress. *Pānui Haere* were the principal means used to identify children's *Ngā Kete Kōrero* reading instructional level at each testing point.

Pānui Haere involve recording and analysing reading behaviours as a child reads continuous text and calculating rates of accuracy and self correction. This assessment procedure is the reconstruction of running records developed in collaboration and with the sanction of Marie Clay over a period spanning more than a decade.[8] It is not a literal translation of the English but rather a Māori version that recognises and accounts for those characteristics that make the Māori language unique. As stated by Rau and McNaughton (1998);

> *Taking an assessment procedure specifically designed for one particular linguistic and cultural group and adapting it for use with another requires very careful treatment. Merely providing a literal translation risks seriously compromising the validity and the authenticity of the tasks.* (p. 41).

Decisions about instructional level were based on the titration procedure of finding the highest level a child could read with 90% accuracy. Other indicators were also sometimes used such as *tāutu reta*[9] (letter identification) and *whakamātautau kupu*[10] (word recognition test) to either confirm the level or to identify a starting point for text selection for the testing. As many *Pānui Haere* were administered as deemed necessary by the respective researchers to determine a child's instructional level. The classroom teacher was also asked to provide children's instructional levels independently of the testing process. The correlation between the teachers' and

[8] For detail, refer to Rau, 1998

[9] The letter identification assessment was extracted from *He Mātai Mātātupu,* the official reconstruction in Māori of Marie Clay's An Observation Survey of Early Literacy Achievement.

[10] The word test was also extracted from *He Mātai Mātātupu* as above.

researchers' judgements were calculated for the first three testing points using the formula:

Agreements ÷(agreements + disagreements) x 100

There was a 75% agreement between researcher one and the teachers in her five respective schools and a 45% agreement between researcher two and the teachers in the three schools in her sample. Overall therefore, there was a 62% agreement between the researchers and the teachers which is considerably higher than the level of chance (11%) in which case teachers and researchers would have randomly identified instructional levels. The 62% level of agreement might be attributed to one or a combination of the following:

1. Only two of the eight teachers regularly administered *Pānui Haere* therefore the majority did not have the information from this assessment to assist them in their decisions about appropriateness of instructional level. Consequently a lack of detailed empirical evidence may have prevented teachers from recognising subtle changes in reading behaviours signalling readiness for more challenging material found at a higher reading level or the reverse.

2. As external assessors, the researchers had to rely on the results of a discrete testing point to make a judgment and did not have access to the depth and breadth of information afforded to the classroom teacher about individual children.

Out of the 247 samples analysed, one hundred and sixty four matches were recorded. There were only two instances where researchers and teachers differed in their judgement by two out of a possible nine levels, and 81 instances when the difference consisted of one level. Forty five percent of the samples consisted of the researcher judging the level to be higher than that identified by the teacher and 81% where the researcher deemed the instructional level to be lower. With one teacher in particular, there was wide disagreement with the researcher at the initial testing point, but agreement was considerably improved at subsequent testing points indicating that the teacher may have adjusted the instructional levels in response to the findings from the previous administration of the assessments.

Mismatches between teacher judgement and the results of systematic assessment were reported in the research to develop *Ngā Kete Kōrero* Framework (1993-1995) where teachers were found to significantly over and underestimate instructional levels for children.

Inter-observer reliability was also calculated for the two researchers. This involved each researcher in turn administering *Pānui Haere,* and in some instances *tāutu reta* and *whakamātautau kupu* to a sample of their respective children while the other simultaneously recorded and scored the child's responses. The researchers then separately made a decision about the instructional level for each child immediately after the testing. These identified levels were compared for degree of agreement using the formula:

Agreements ÷(agreements + disagreements) x 100

This was carried out at two sites during the second probe with 20 children representing 20% of the total sample at that time. Of the twenty children tested under these conditions, the researchers disagreed on appropriate instructional level for only two children thus achieving 90% agreement.

Tuhi

A writing sample was collected from children in the sample group at each testing point under standard conditions. The researcher read a story and initiated some discussion as a motivation for the writing. Each researcher used the same story at each testing point.

Probe 1 *He Āporo Mā Hoiho*
Probe 2 *Hōhepa te Pūru*
Probe 3 *Te Tuatara Māngere*
Probe 4 *Pererika Te Pōraka*

The following criteria were used in the selection of appropriate texts:

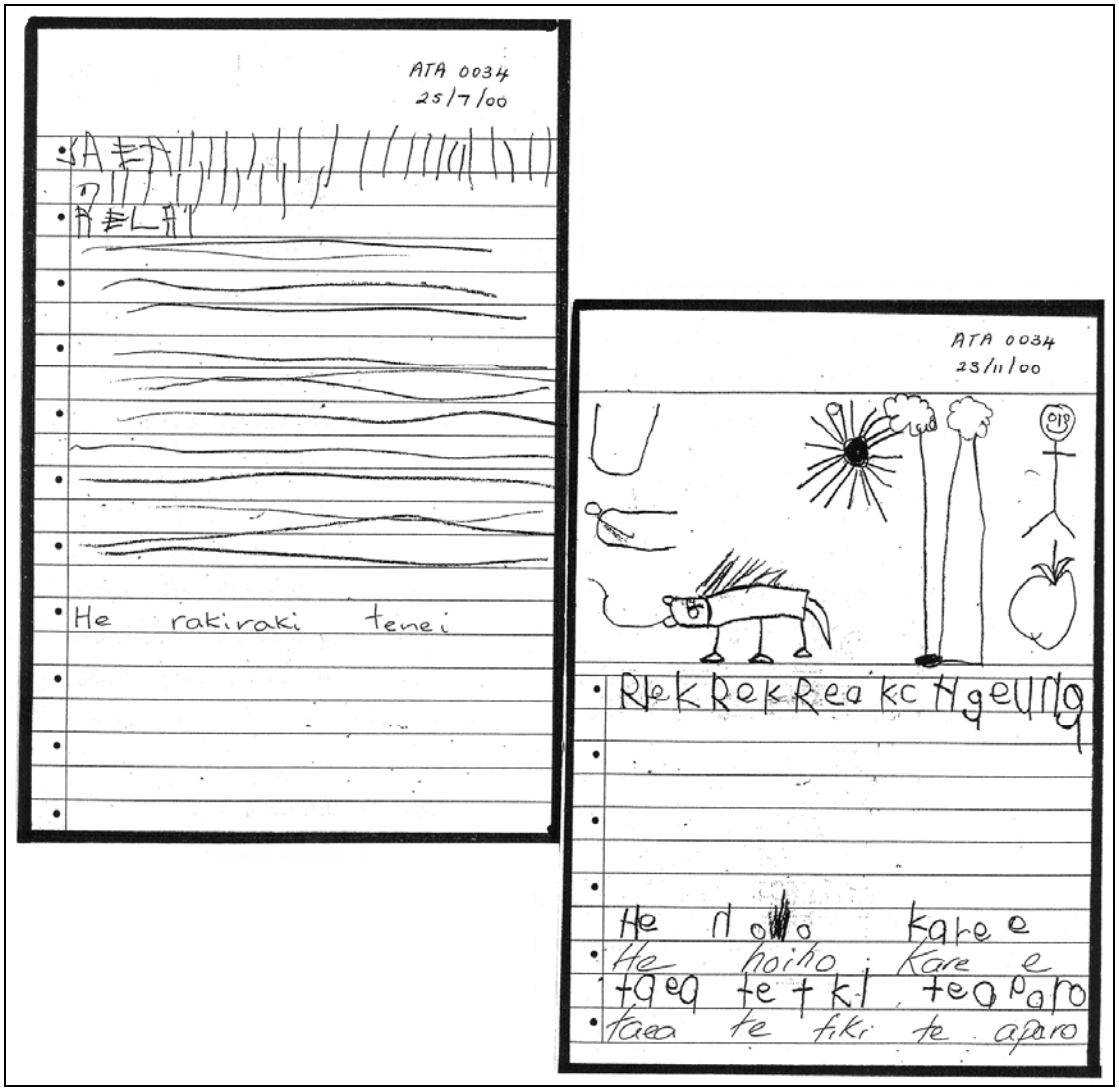
1. Story selected at a much higher difficulty level to reduce the possibility the children would have had the story at an instructional text and to maintain a novelty effect

2. Strong narrative storyline to facilitate discussion and assist with a written retelling

3. Derived from the same series (*He Purapura*) to ensure a consistency in publisher house style

Children were given 5 minutes, which was timed, to draw a picture and a further (timed) 10 minutes to write a story. It was not compulsory that they write about the story just previously read to them or that they write for the whole 10 minutes. The marking schedule such as those used in 10 x 10 writing survey[11], were considered inappropriate in this case as they do not adequately capture changes in writing skill over time at the emergent writing stages. This is demonstrated by the following examples.

[11] 10 x 10 writing survey include calculating the number of words written correctly and incorrectly per minute. Guidelines for the use of this assessment for texts written in Māori were drawn from Lamont (1992).



July 2000
Level 1 *Whenu Harakeke* (WH)

November 2000
Level 2 *Harakeke* (H)

FIGURE I Writing samples for one student in total immersion in Māori

These writing samples were produced by the same child four months apart. According to the levels developed under *He Ara Angitu* project, the child has registered a level on both occasions and has also gained one level. If assessing these samples using the 10 x 10 writing assessment, the child would have attained a score of zero for both samples as scoring is contingent upon the correct spelling of words. The samples clearly demonstrate a change in the child's writing behaviours as well as the depth of the message assigned to this 'writing'.

The research project presented an opportunity to develop an additional means of assessing or classifying children's writing in Māori (see earlier discussion regarding 10 x 10 writing samples).

Teachers have reported that *Ngā Kete Kōrero* framework for reading has been very useful. (Bishop, Berryman, Richardson 2001). The researchers decided to explore the possibility of developing a similar framework for writing in the interests of simplicity and to ensure consistency across the various other initiatives either in progress or already completed in Māori medium literacy.

Over 350 children's writing samples were collected that ranged from a minimum of two samples to a maximum of four per child. In the initial stages, all of these samples were sorted by the researchers into piles that looked to be at a similar level. Criteria for placement were then discussed, agreed upon and recorded. Those samples which comprised only a picture and/or one or two letters were withdrawn as it was felt that there was not enough evidence on which to make a judgement. In these instances, the classroom teacher might be able to base a decision about writing level by referring to other pieces of writing generated by that child during normal instruction provided that these were written under conditions similar to the test conditions.

A further set of twenty samples was randomly selected from the total sample and sorted independently by the researchers into tentative levels based on the jointly derived criteria. Adjustments were made to the criteria or descriptors and the exercise repeated again using a different set of samples where a higher level of agreement was reached. Inter-observer reliability was calculated using the following formula

Agreements ÷(agreements + disagreements) x 100

At this point it was deemed necessary to conduct a small external trial as a further measure of reliability. Subsequently, sets of samples, again randomly selected, were distributed to a small group of teachers who were asked to repeat the exercise of sorting the writing into levels according to the descriptors. A review of their responses revealed an overall low inter-observer agreement and as a result the decision was made to adjust one of the levels. This level (*Kete Harakeke*) had been separated into

three sublevels (similar to the reading framework) and was found to be the most problematic for teachers, that is, it was at these sublevels that the most disagreement occurred. This indicated that the descriptors did not effectively discriminate for sublevel. After several attempts at rewriting, applying revised descriptors and retrialling, it was decided to amalgamate the three sublevels in to one level. This was an attempt to alleviate the problems of indecision and disagreement repeatedly experienced by both teachers and researchers particularly involving samples that exhibited the criteria of more than one sublevel equally well.

A range of examples of work were selected for each level and added to the descriptors to assist further in making judgements about placement. This exhibits many of the characteristics of exemplar use in outcomes based curricula but should not be interpreted as an intentional attempt to align this research to current Ministry funded initiatives in exemplar development.

Another group of twenty teachers was approached and asked to sort a new set of children's writing samples into levels using the descriptors and accompanying exemplars most recently developed. These teachers were drawn from all class levels (not necessarily junior school) and were asked to participate in a blind trial. This meant they were given just enough instructions to carry out the task and did not receive any other additional support or direction. They were also asked to carry out the exercise independently without consulting their colleagues or anyone else. This was an attempt to gauge the effectiveness of the descriptors and exemplars in discriminating level.

The criterion for agreement between two observers was that they should agree to within one level of each other. This was achieved in 18 out of 21 instances and complete agreement was recorded in two instances. One teacher disagreed by two levels (out of four) for several writing samples with the some of the other teachers.

The highest acceptable agreements were found between only three of the twenty-one participants i.e. the two researchers and one teacher. There was a 91% agreement

between researcher one and two. The teacher[12] had 95% agreement with one of these researchers. This represents a difference in placement of one writing sample by one level. The agreement between researcher two and the teacher was 86% which means they disagreed on the placement of three of the twenty-one samples. Again, the difference in placement was by one level in each case. Thus, disagreement on only one sample will result in changing the percentage agreement between observers by 5% and disagreement on three by 14%. Any small difference tends to have a huge impact when the sample is small as was the case in this investigation.

An international literature review on exemplars submitted to the Ministry in July 1999 by Auckland Uniservices, identifies the need to check current teacher judgements for consistency and accuracy (p. 59). Our investigation certainly emphasises why this is necessary.

The review also highlights the difficulties in the placement of material that might be considered borderline (i.e. adheres to the criteria or descriptors for two levels) and the indecision experienced by teachers when asked to select on the basis of best fit in these circumstances. Again our probe provides evidence of this.

While acceptable levels of agreement were achieved, it is worth hypothesising why there were more discrepancies of one level than exact matches in level so that agreement might be further increased in future applications and extensions of development of the writing framework. It is possible that some teachers:

- May have unconsciously or even consciously applied their expectations of middle and senior class children on the writing of junior aged children. (See description of participants)

- May have made judgements based on only a superficial look at each of the samples

- May have only sampled the criteria and therefore based their judgement of the writing on the adherence to an incomplete set of descriptors

[12] It may be worth noting that this teacher was one of the subjects selected to take part in the Effective Māori Medium Teachers study 2000-2001 .

- May have been more rigorous in their decision making had the sample been their own children's work making the task a more relevant, authentic and meaningful one for them

The results indicate the need for careful training of teachers in using these levels. Such training for teachers ought to include:

1. Exercises to familiarise teachers with the descriptors

2. Practice with the placement of writing samples using a mixture of examples drawn from their own classes and ones already provided and

3. Opportunities to collaboratively discuss and rationalise placements

This ought to increase consistency or reliability between observers. The two researchers for the project had the benefit of these experiences while developing the framework. Once the descriptors were finalised (Refer to , 7, 8, 9 & 10), both researchers independently levelled the total number of writing samples totalling 371. Inter-observer reliability was calculated and 90% agreement was achieved which represents 334 agreements and 37 disagreements.

Kōrero

Kī Mai from *Aromatawai Urunga Ā Kura* (Ministry of Education, 1997) was used to assess children's oracy but was only administered with children who were five years of age to five years two months at the time of testing. This is consistent with its use as a school entry assessment. It should be noted that a probe of oral language was not a project requirement, but the decision was made to include this information because

1. Māori literacy is founded on an oral tradition

2. Oral language plays a fundamental role in language function

3. There is no available data across a range of schools about children's developing oracy in Māori

The interdependence of the language strands is highlighted by the Literacy Experts Group in their definition of success in literacy:

> *"In general, successful reading (for children at age nine) sic, means comprehending in print much of what they can comprehend when listening to spoken language. Successful writing means expressing in print much of what they are expected to express when speaking".* (Literacy Taskforce Report 1999, p 8)."

Children who had already been tested with *Kī Mai* by the classroom teacher were not retested by the researchers to avoid practice effects[13] and over testing. Data for *Kī Mai* from the teachers' testing was also not included in the study as treatment integrity (evidence that the assessment was correctly administered) could not be guaranteed.

An alternative form of the test was given at the last probe. For some children this meant they were tested at least three months later and for others, approximately a year later. For these children measurements were taken at only two of the four probes. The number of alternative forms of the book used in the testing procedure was limited. It was therefore felt that beginning and final testing points would yield sufficient information to observe changes over time.

Taped recordings of the performance of children in *Kī Mai* were independently scored by the two researchers. Inter-observer reliability was calculated using the following formula

Agreements ÷(agreements + disagreements) x 100

Kī Mai was administered on a total of 35 children. Agreement was calculated for 7 of these children which represents 20% of the total sample. Only two of the five criteria were selected for comparison i.e.

1. *Te Hanga Rerenga Kōrero*	Sentence structure
2. *Te Whakawhānui Ara Whakaaro*	Message complexity or the child's ability to specify detail, define, intensify and/or modify meaning and add description

[13] Prior and in this case recent experience with the test gives children an advantage over untested children compromising the standardised nature of the assessment

The remaining criteria for scoring in this task were not included for this exercise as they directly relate to the child's knowledge and experience with how stories are structured.

The two researchers agreed on 79% of the sample i.e. they agreed 6 out 7 times on the scoring for *Hanga Rerenga Kōrero* and 5 out of 7 times for *Whakawhānui Ara Whakaaro.* There was a difference of one level for the three instances when the researchers did not agree. Overall therefore, inter-observer reliability was very high.

Te Hanga Rerenga Kōrero			
0 Te Kākano Kāore he kōrero	1 Te Tipu He tapanga mama, he kōrero motumotu	2 Te Rea Rerenga kōrero poto, māmā hoki hei hono whakaaro	3 Te Aka Pakari te hanga kōrero

Te Whakawhānui Ara Whakaaro			
0 Te Kākano Kāore he kōrero	1 Te Tipu He tapanga māmā, he kōrero motumotu kia mōhio ai ko wai, he aha ā ki hea pea rānei.	2 Te Rea Rerenga kōrero poto, māma hoki kia mōhio ai ko wai, he aha, ā ki hea āhea rānei. He whāiti ngā kupu whakakaha, whakangohe rānei	3 Te Aka Rerenga kōrero whānui kia mōhio ai ko wai, he aha, ki hea āhea pea, pēhea rānei ME ngā kupu whakakaha, whakaiti, kupu āhua hoki.

FIGURE II Scoring criteria for *Kī Mai* used in *He Ara Angitu*

THE RESULTS: *PĀNUI*

The results reflect the actual performance in reading of a group of 5.0 to 6.5 year old children in Māori medium programmes in eight schools in Waikato and South Auckland and are based on the following sample sizes:

Table 3 Samples of reading assessments collected for the test group of year 0 – 2 students in total immersion in Waikato and South Auckland schools 2000-2001

Age of child in years and months	Time in immersion	No. of samples collected
5.0 – 5.3	0 – 3 months	110[14]
5.4 – 5.7	4 – 7 months	139
5.8 – 5.11	8 – 11 months	96
6.0 – 6.5	12 – 17 months	64

To assist with reading the graphs that follow, *Ngā Kete Kōrero* framework levels have been given a corresponding numerical value. These are:

Table 4 *Ngā Kete Kōrero* reading levels

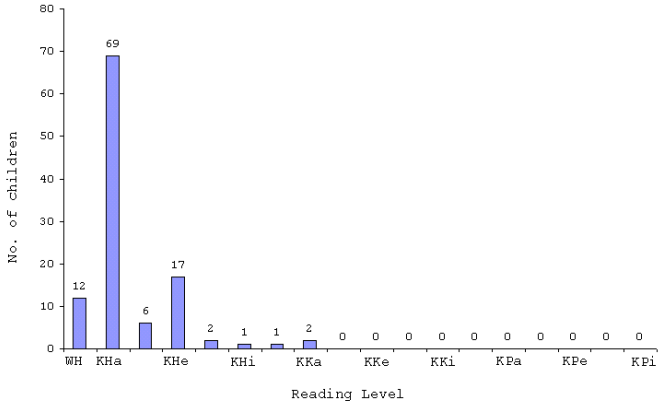
	Ngā Kete Kōrero Level	Short form	Numerical representation
Beginning readers	Whenu Harakeke	WH	1
	Kete Harakeke A	KHa	2
	Kete Harakeke E	KHe	3
	Kete Harakeke I	KHi	4
Moving toward fluency ↓	Kete Kiekie A	KKa	5
	Kete Kiekie E	KKe	6
	Kete Kiekie I	KKi	7
	Kete Pīngao A	KPa	8
	Kete Pīngao E	KPe	9
	Kete Pīngao[15] I	KPi	10

[14] 109 indicates the number of children who were aged 5.0 to 5.3 at any time during the ten months of testing, 139 were aged 5.4 to 5.7 etc. on whom *Pānui Haere* were administered to determine instructional reading level

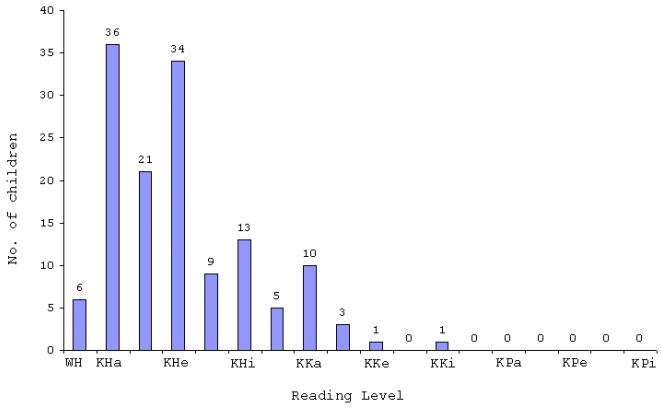
[15] There are actually 4 sublevels at Pīngao level but the highest level achieved by any child in the sample was *Pīngao E*

The distribution or variability of instructional reading level for the sample is illustrated by the following

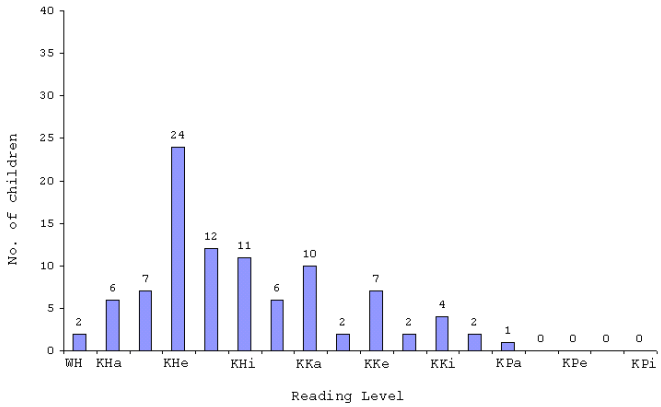
Graph 1
Distribution of reading levels for 110 children after **0 to 3** months in total immersion.



Graph 2
Distribution of reading levels for 139 children after **4 to 7** months in total immersion.



Graph 3
Distribution of reading levels for 96 children after **8 to 11** months in total immersion.



Graph 4
Distribution of reading levels for 64 children after **12 – 17** months in total immersion.

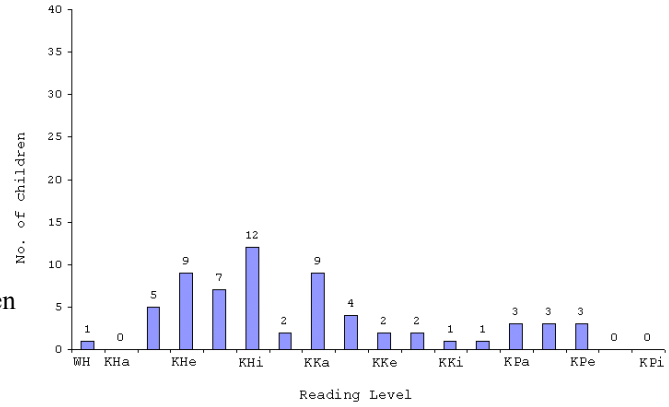


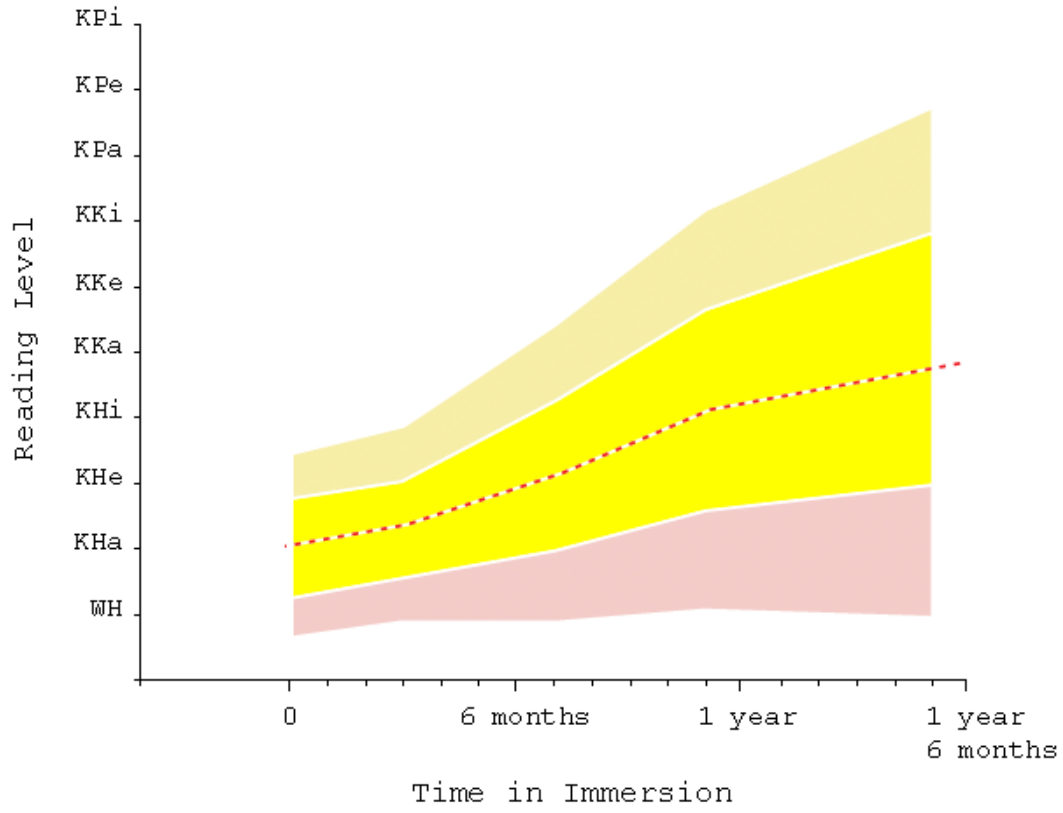
FIGURE III
Changes in distribution of *Ngā Kete Kōrero*
Reading levels of children between 0-3 months and 12-17 months immersion in Māori language

The following were identified for each group.

1. The mean (average)
2. The standard deviation (a measure of spread of scores around the mean)

The information from cross section samples was used to construct this graph.

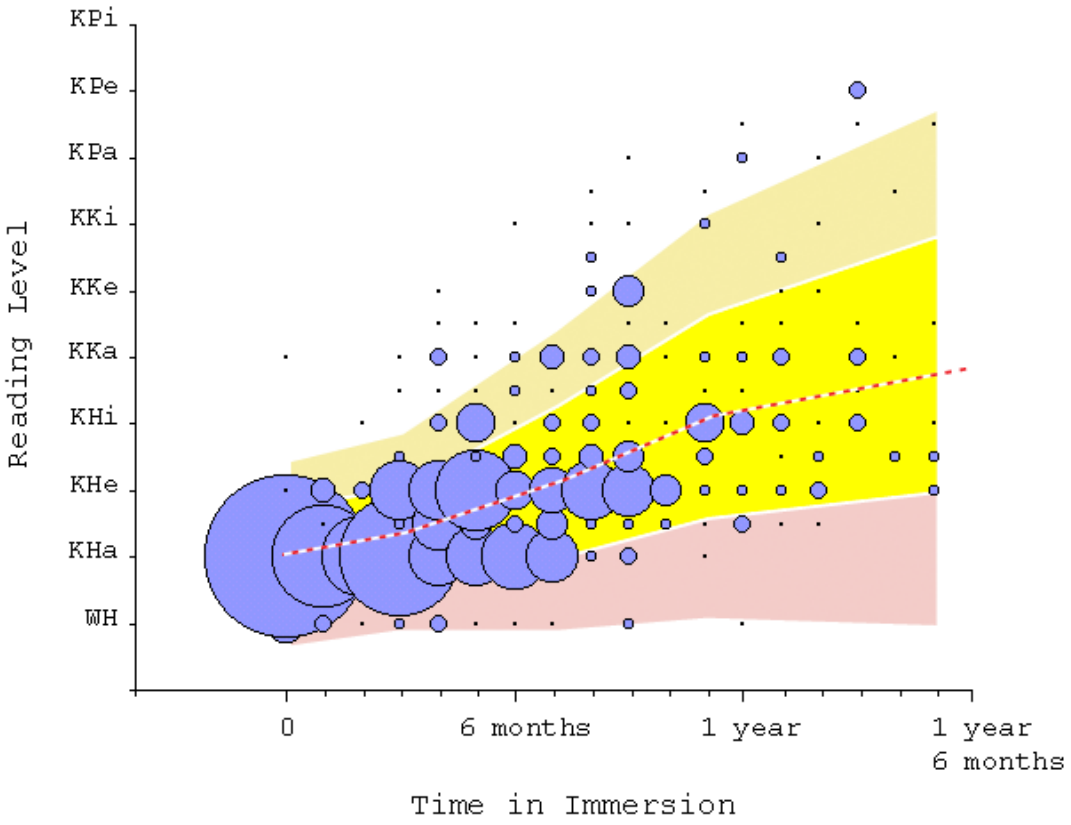
Graph 5 Mean and variability of *Ngā Kete Kōrero* reading levels for year 0 – 2 students in total immersion in Māori school in Waikato and South Auckland in 2000 and 2001



Based on a normal distribution, the middle band bounded by the white lines, marks one standard deviation above and below the average or mean and therefore reflects the actual performance of approximately 68% of the children in the sample. The uppermost band indicates two standard deviations above the mean and reflects the actual performance of approximately a further 13% of the children in the sample. The middle and upper bands therefore represents the performance of approximately 84% of the children in the sample.

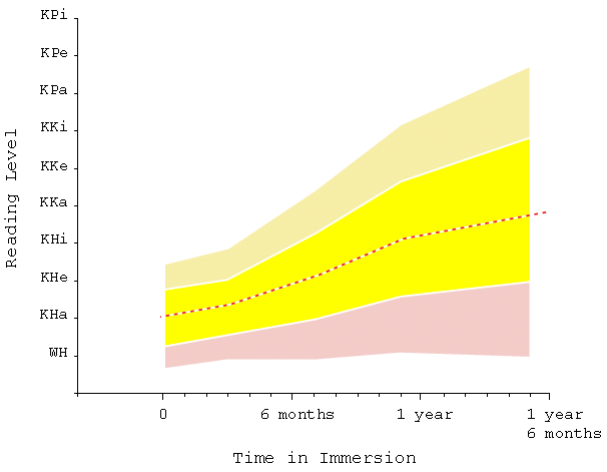
The data are presented in graph 6 to demonstrate how the bands were determined.

Graph 6 Distribution of reading levels of children in total immersion in South Auckland and Waikato Schools in 2000 and 2001



The dashed line identifies the mean or average for each group. The circles indicate the levels attained by respective groups of children after a specified amount of time spent in immersion. The size of the circle is relative to the number of children who achieved those levels. At a glance you can see that the bulk of the children tested had spent between less than one month to 10 months in total immersion.

The information in graph five can be used to locate the performance in reading for individual children in the sample. Consequently, instructional levels that fall within the middle and upper bands indicate that the child is succeeding in reading. The closer the child is to upper band or the further above the mean line, the more successful the child is deemed to be relative to the other children the sample.



Conversely, the closer the child is to the lower band or further below the mean, the less success that child is experiencing. Any children whose results fall in the lower band warrant an investigation into possible causal factors to ensure that the classroom programme is providing optimum opportunities for their learning. This again is relative to the performance of the other children in the sample.

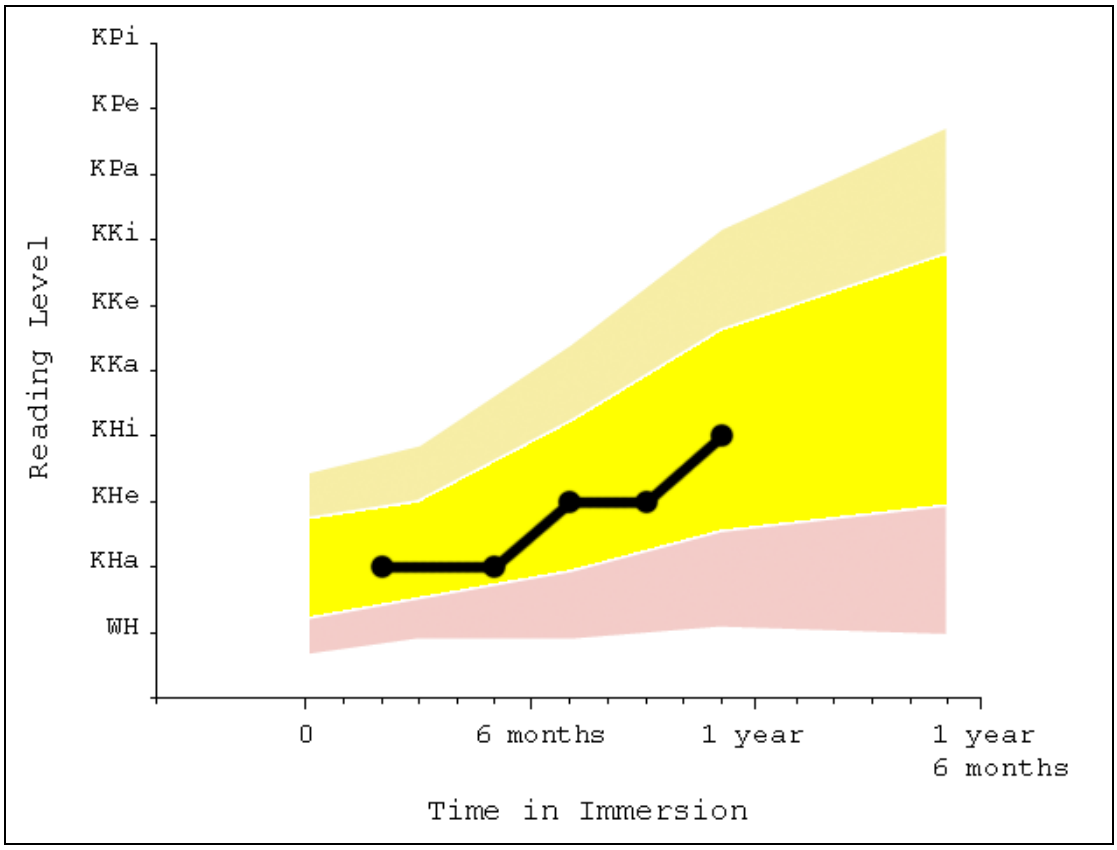
The graph can also act as a guideline to assist with describing achievement for individual children outside the project sample who are also learning to read in 80-100% immersion in Māori in the first two years of their schooling. The instructional reading levels of individual children would be plotted at the appropriate intervals. This could potentially serve two functions.

1. Identify the child's performance relative to an external cohort group i.e. provide normative information

2. Demonstrate the child's progress over time in reading as gains in *Ngā Kete Kōrero* levels.

The following example illustrates the use of the graph in this way using the results of a child in the sample.

Graph 7 Reading achievement bands for a child in total immersion based on the performance of a sample of 140 children in South Auckland and Waikato Schools in 2000 and 2001



The child in the example above is deemed to be achieving (succeeding) in reading.

An alternative form of locating performance constructed from cross section samples was also developed in the form of a box plot.

Plotting the instructional levels of a cohort of children who have been in immersion from age five in a particular school at any given time allows for comparison with the norm group. This is demonstrated in the following example using data for a group of 12 children who have been in total immersion for 4 to 7 months. These data appear as solid dots in the box plot below.

Graph 8 Box plot of instructional reading level for a sample of children in total immersion in South Auckland and Waikato Schools in 2000 and 2001

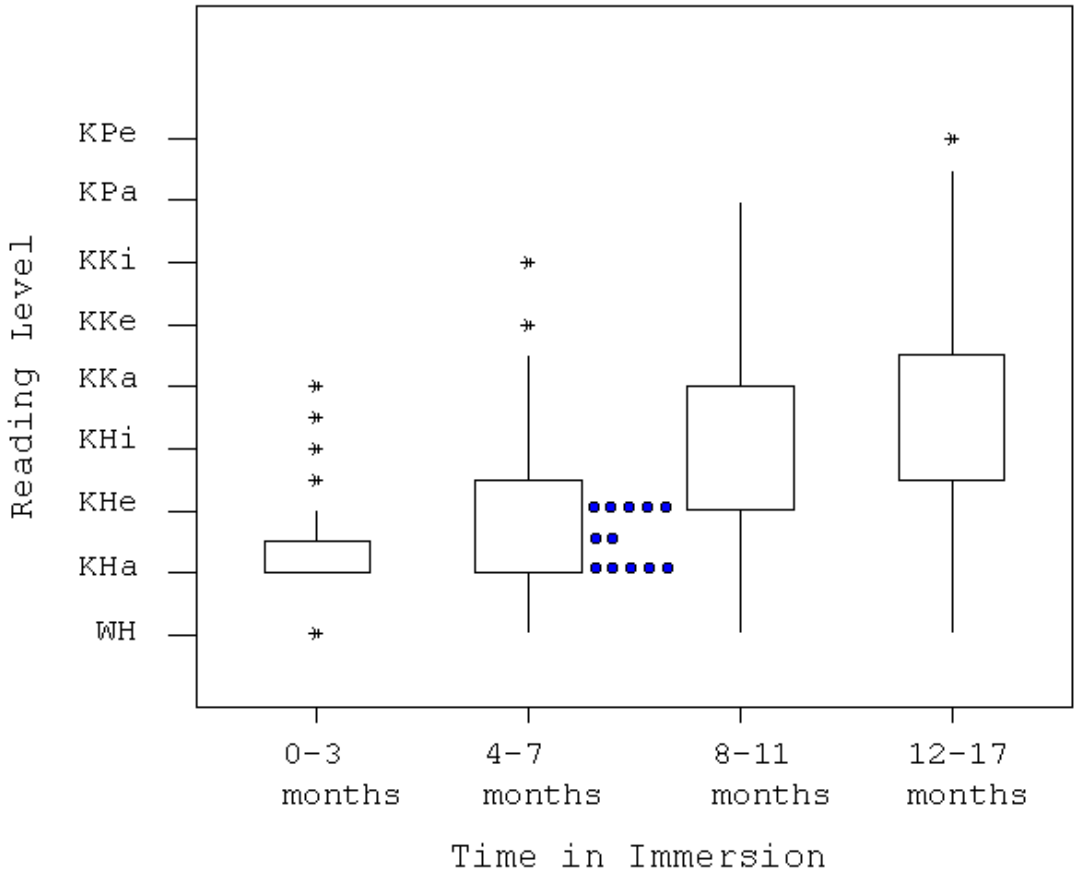


FIGURE IV Variability of *Ngā Kete Kōrero* reading levels from 0-18 months of Māori immersion

The box encompasses the middle 50% of the sample. The lines extending from the top and bottom indicate the spread in reading levels identified for the research sample group. The asterisks represent the extreme values or outliers. In this instance, the cohort group is being compared to a norm group numbering 139 children. (See page 31 for age band sample sizes).

Letter Identification and Instructional Reading Level

A correlation co-efficient of 0.713 was calculated between letter identification[16] and instructional reading level indicating a strong relationship. This means that there is a very high likelihood that a child who achieves a high reading instructional level (i.e. is reading at a more difficult level) will also be achieving high scores in letter knowledge.

This has practical applications for teachers particularly in the case where discrepancies occur. A high reading level and a low letter identification score could for example indicate misplaced reading level which is possible in cases where children may have developed a high memory for the text used in the assessment. A low reading level and a low letter identification score could again indicate misplaced reading level or might reflect a disproportionate focus on letter identification in the classroom programme with less opportunity for reading continuous text. Discrepancies between reading level and letter identification should alert the teacher to investigate further.

One hundred and fifteen children were tested for both instructional reading level and letter knowledge resulting in a total of 267 samples. A further analysis of this data revealed the following:

1. Seventeen out of 17 (100%) of the samples recorded a reading instructional level *Whenu Harakeke* (i.e. level 1) and a score of 0 to 13 out of 33 on the letter identification task

2. One hundred and fifty eight out of 177 samples (89%) recorded a reading instructional level *Kete Harakeke A, E or E/I* (i.e. levels 2 – 3 ½) and a score 0 to 26 out of 33 on the letter identification task

3. Twenty-six of the 32 samples (81%) recorded an instructional level *Kete Harakeke I,* or *Harakeke I/Kiekie A,* (i.e. levels 4 – 4 ½) and scored between 16 – 30 out of 33 on the letter identification task

[16] The letter identification task *Te Tāutu Reta* from *He Mātai Mātātupu* was used (Refer to Rau 1998)

4. Forty-one out of the 41 samples (100%) recorded an instructional reading level *Kete Kiekie A* and higher (i.e. levels 5 +) and scored 27 – 33 on the letter identification task.

From this information, the following general guideline has been developed:

> A score between 0 and 26 on the letter identification task indicates instructional reading level is likely to be between *Whenu Harakeke* and *Kete Harakeke I* (levels 1 – 4)
>
> A score of 27 or better on the letter identification task indicates instructional level is likely to be *Kete Kiekie A* (level 5) and higher

FIGURE V Performance on letter identification task as an indicator of *Ngā Kete Kōrero* reading instructional level

These guidelines could ultimately benefit teachers by

1. Indicating an approximate instructional reading level for children who may have come from another immersion programme. However, this guideline should be confirmed by administering *Pānui Haere* which would provide a finer measure

2. Acting as a cross check against instructional reading level established via the use of *Pānui Haere.* Discrepancies between reading instructional level and letter identification should alert the teacher to investigate further

Word Recognition and Instructional Reading Level

A correlation co-efficient of 0.734 was calculated indicating a strong relationship between word recognition and instructional reading level. This means that there is a very high likelihood that a child who achieves a high reading instructional level will also achieve a high score in word recognition.[17]

This has practical applications for teachers particularly in the case where discrepancies occur. A high reading level and a low word recognition score could for example indicate misplaced reading level which is possible in cases where children may have developed a high memory for the text used in the assessment. A low reading level and a high word recognition score could again indicate misplaced reading level or might reflect a disproportionate focus on word recognition in the classroom programme with less opportunities for reading continuous text. Discrepancies between reading level and word recognition should alert the teacher to investigate further.

Thirty-four children were tested for both reading instructional level and word recognition. Only one sample per child was possible in many instances. These were taken more towards the end of the project when children were beginning to reach more difficult reading instructional levels and achieving high scores in letter identification. The time interval between testings (in the instances where this did occur) was three to four months.

The greatest variability in scores occurred at *Kete Harakeke I* (level 4) and *Kete Kiekie A* (level 5). The cumulative sample size of these two levels was 36. Scores ranged from 0 out of 15 to all 15 words recognised correctly. The scores were also fairly evenly distributed at these levels. The eighteen children[18] at *Kete Kiekie A/E* and higher (levels 5 ½ to 8) recognised no fewer than half of the words.

[17] The word recognition task *Whakamātautau Kupu* from *He Mātai Mātātupu* was used (Refer to Rau 1998) in some cases where children were nearing ceiling levels in the letter identification task. As a general rule, *Whakamātautau Kupu* was administered concurrently with letter identification when children were scoring at least 26 or more out of 33. Once these children successfully recognised all letters, only the word recognition task was administered.

[18] The remaining two children in the sample had instructional levels of *Kete Harakeke E* and recognised 2 and 14 words respectively. The small sample size tends to indicate that these results are extremes or 'unusual'.

From this information, the following general guideline was developed:

A score of at least 8 of the words in the *whakamātautau kupu* word recognition task, indicates a likely reading instructional levels from *Kete Kiekie A/E* and higher (levels 4 ½ +)

FIGURE VI Performance on word recognition task as an indicator of *Ngā Kete Kōrero* reading instructional level

THE RESULTS:*TUHI*

The results reflect the actual performance in writing of a group of 5.0 to 6.5 year old children in Māori medium programmes in eight schools in Waikato and South Auckland and are based on the following sample sizes

Table 5 Number of writing samples collected for the test group of year 0 – 2 students in total immersion in Waikato and South Auckland schools

Age of child in years and months	Time in immersion	No. of samples collected[19]
5.0 – 5.3	0 – 3 months	90
5.4 – 5.7	4 – 7 months	115
5.8 – 5.11	8 – 11 months	82
6.0 – 6.5	12 – 17 months	56

To assist with reading the graphs that follow, *Ngā Kete Kōrero* framework levels have been given a corresponding numerical value with 1 representing the beginning or first level. These are:

[19] The numbers refer to the number of samples collected from children for each of the time in immersion bands. It is possible therefore that a child may have more than one writing sample within one time in immersion band depending on the interval between testings.

Table 6 *Ngā Kete Kōrero* writing levels

Ngā Kete Kōrero Level	*Short form*	*Numerical representation*
Whenu Harakeke	WH	1
Kete Harakeke	H	2
Kete Kiekie	K	3
Kete Pīngao	P	4

Whenu Harakeke (Level 1) remained the same

Kete Harakeke A, E and *I* (Levels 2, 3 and 4) became *Kete Harakeke* (Level 2)

Kete Kiekie A, E and I (Levels 5, 6 and 7) became *Kiekie* (Level 3)

Kete Pīngao A, E, and *I* (Levels 8, 9, and 10) became *Kete Pīngao* (Level 4)

The distribution or variability of instructional level for this sample is illustrated in graphs 9 – 12 as follows:

Graph 9 Distribution of writing levels for a sample of 90 children 5.0 – 5.3 years old in total immersion in South Auckland and Waikato Schools in 2000 – 2001

Graph 10 Distribution of writing levels for a sample of 115 children 5.4 – 5,7 years old in total immersion in South Auckland and Waikato Schools in 2000 - 2001

Graph 11 Distribution of writing levels for a sample of 82 children 5.8 – 5.11 years old in total immersion in South Auckland and Waikato Schools in 2000 - 2001

Graph 12 Distribution of writing levels for a sample of 56 children 6.0 – 6.5 years old in total immersion in South Auckland and Waikato Schools in 2000 - 2001

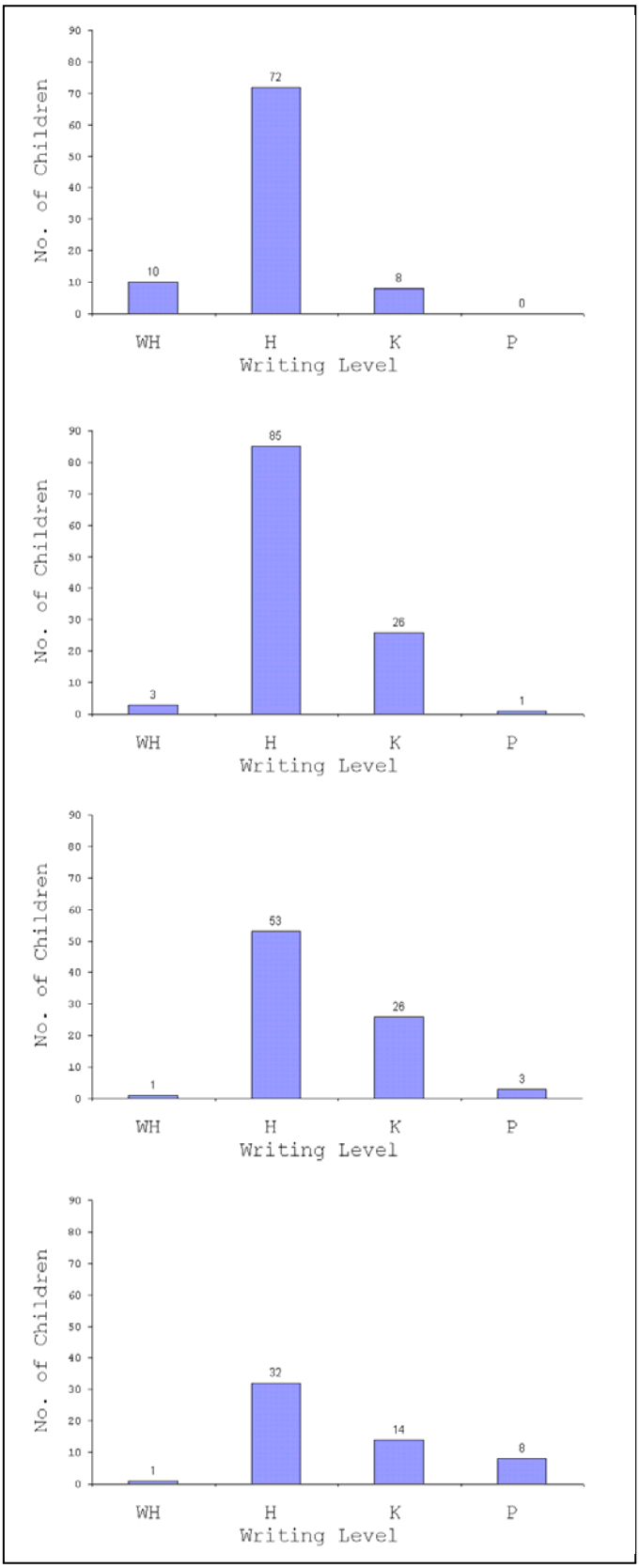
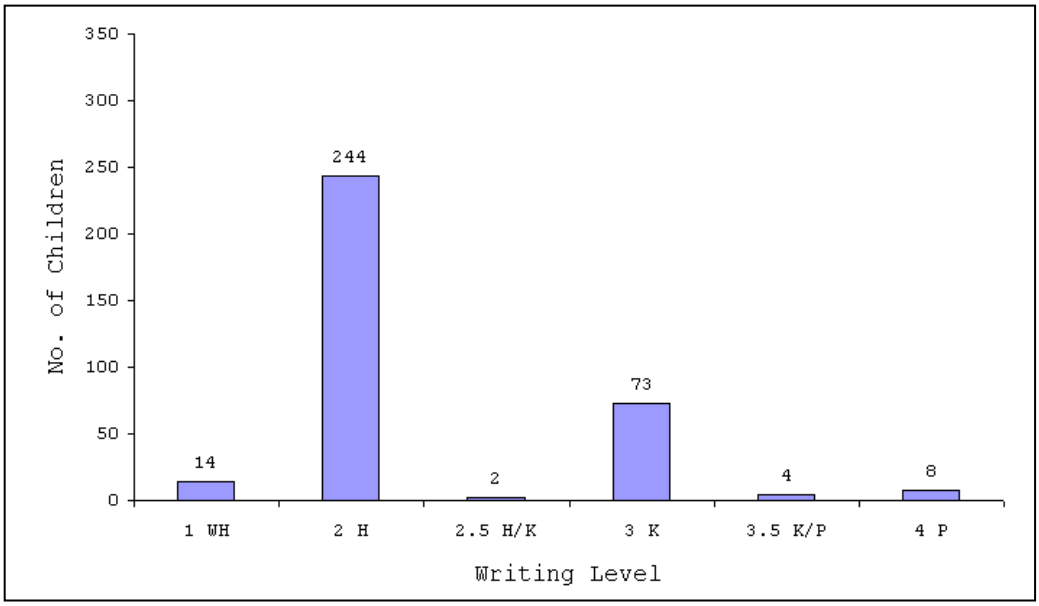


FIGURE VII
Changes in distribution of *Ngā Kete Kōrero* writing levels of children between0-3 months and 12-17 months immersion in Māori language

Collapsing reading levels made it possible to simplify comparisons between reading level with writing level. The relationship between writing levels and reading levels is demonstrated below.

Graph 13 Overall distribution of writing levels for children in immersion in South Auckland and Waikato Schools in 2000 – 2001



Graph 14 Overall distribution of reading levels for children in immersion in South Auckland and Waikato Schools in 2000 – 2001

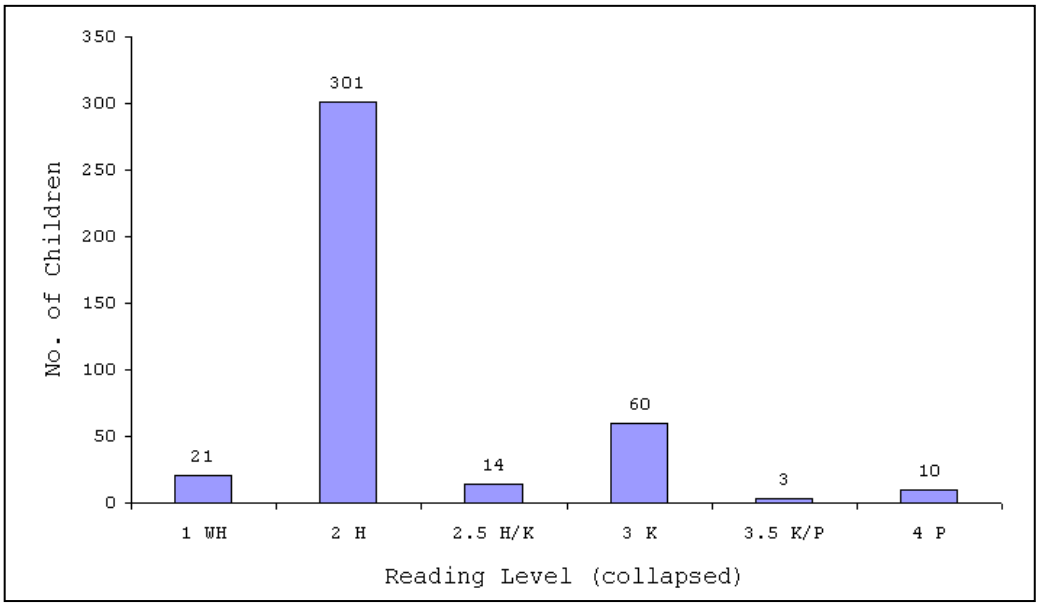


FIGURE VIII Distribution of *Ngā Kete Kōrero* writing levels and collapsed *Ngā Kete Kōrero* reading levels

A 0.744 correlation co-efficient was calculated indicating that a strong relationship exists between the two variables. This means that progress in reading is closely linked to progress in writing.

There were a total of 327 instances where a comparison could be made between children's reading level and writing level. Of these, there were 287 exact matches

e.g. *Harakeke* collapsed reading level (2) = writing level 2

On the basis of the correlation, teachers can expect a close match between reading level and writing level approximately 88% of the time, provided the information is collected under conditions similar to those used during the study i.e. establishing reading level using *Pānui Haere* and collecting a timed unassisted writing sample at the same time. The strong correlation between reading and writing level, should therefore alert teachers to investigate further in cases where a large discrepancy between the two occurs. A high reading level and a low writing level might for example indicate misplaced reading instructional level while a high writing level and a low reading level might be the result of an unusual writing sample for that child. This is possible in cases where the child may have copied the work of another child.

THE RESULTS:*KŌRERO*

The results for thirty-five children were collected from the oral language assessment *Kī Mai.* Of these, nine improved their score for both *Hanga Rerenga Kōrero* and *Whakawhānui Ara Whakaaro,* nine improved their score for only one of the variables and one received a lower score for one of the variables after retesting. Sixteen children received the same score for both *Hanga Rerenga Kōrero* and *Whakawhānui Ara Whakaaro* after retesting. Four of these received the top possible mark and therefore only a lower score at retesting would register a change.

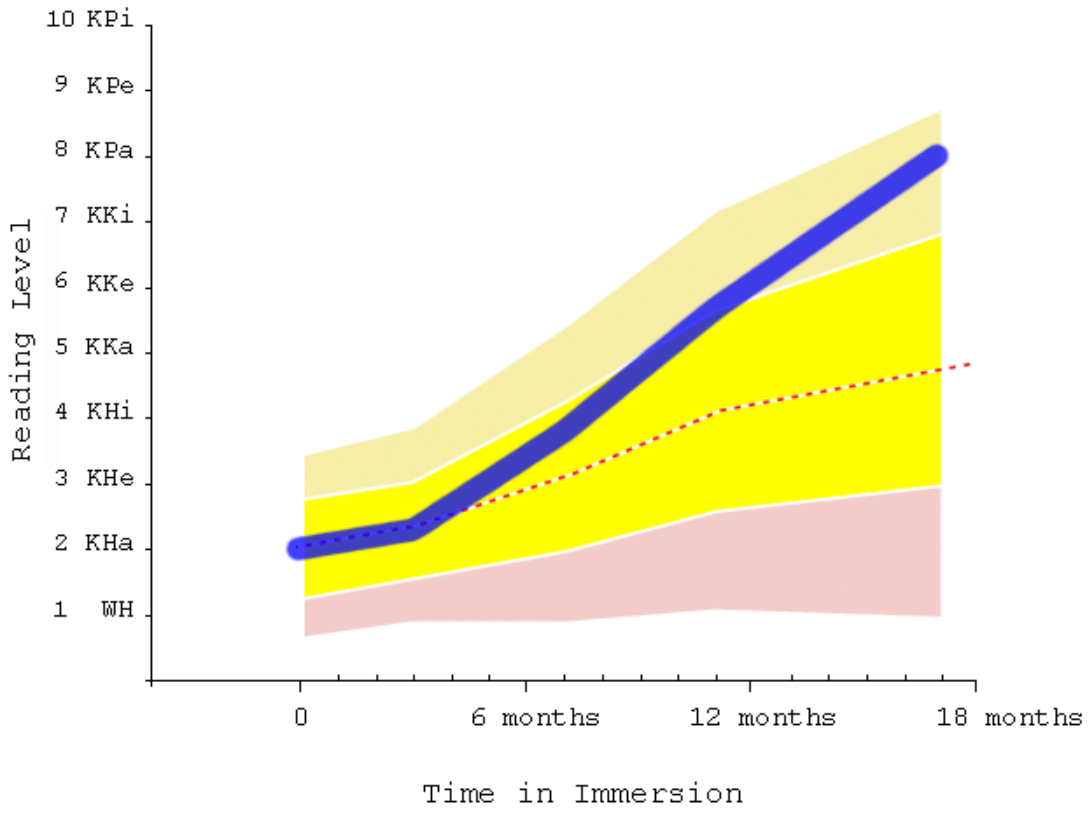
Of these sixteen, fifteen had been in immersion less than 8 months. This suggests that *Kī Mai* is more effective in discriminating change over time after a child has been at school for at least 8 months.

Six children recorded an improvement in *Kī Mai* scores but not in instructional reading level while twelve recorded an improvement in both. Fifteen children recorded an improvement in reading instructional level but no change in *Kī Mai*

scores. An improvement in performance in language structure and message complexity as assessed by *Kī Mai* therefore, does not necessarily mean that we can expect an improvement in reading level. Conversely, an improvement in reading level does not necessarily mean we can expect an improvement in scores in *Kī Mai.* This suggests that the most effective use of the *Kī Mai* assessment of oral language is for determining children's readiness at entry to school to engage in reading and writing activities.

Only two of the 16 children classified as infant bilinguals were eligible for assessing with *Kī Mai* i.e. they had been at school less than eight weeks at the time of testing. While the sample of infant bilinguals was insufficient for drawing any conclusions about the impact of dual competency in language on *Kī Mai* scores, it was possible to examine the instructional reading levels of this group by plotting the average reading instructional levels of this group of children and comparing them to the rest of the sample as demonstrated by the graph as follows:

Graph 15 Average reading instructional level of infant bilingual children indicated by bold solid line



The graph indicates that at five years of age there is little difference in instructional reading level between the infant bilinguals and the rest of the sample but after at least four months of school, the infant bilinguals as a group are clearly experiencing more success and sooner than their counterparts. After four months of school therefore, in general we can expect the oral language advantage of the infant bilinguals to be having a positive effect on their reading and writing levels. This hints at the direct link usually associated with success in oral language and success with other literacy activity.

SUMMARY

The following were developed as a direct result of this project.

In Reading

1. A graph that defines the band of success for children learning to read in the medium of Māori for a sample of children from eight schools in the South Auckland and Waikato areas. It enables the progress of an individual or individuals over time, to be plotted

2. A box plot that allows the sampling and comparison of cohort groups of children against the sample group

3. Guidelines for using the letter identification and word recognition tasks from *He Mātai Mātātupu* as a predictor of possible instructional level

In Writing

4. A set of descriptors and exemplars that enables the classification or levelling of children's writing using a modified version of *Ngā Kete Kōrero* levels developed from earlier research in reading

In Oral Language

5. An analysis of the oral language task *Kī Mai* and collection of evidence that suggests a positive link between oral language competency and reading progress.

DISCUSSION

Māori worldview and educational theorising

Any descriptions of achievement developed for Māori medium education must not only be valid and reliable but also credible in the eyes of Māori and non-Māori educationalists alike. To achieve this, the definitions must be based on sound educational theorising and practice as well as derived from Māori worldview theorising.

The discussion that follows, attempts to articulate the rationales for the representation and interpretation of the data from this research and the subsequent construction of the definitions of literacy firstly from a Māori worldview. As defined by Cunningham (1998, p. 400).

Māori data x Māori analysis = Māori knowledge.

These rationales will then be considered in light of educational theorising and Western European derived theorising in recognition of the fact that in a contemporary context, none of these conditions are mutually exclusive.

The issues that are raised and examined henceforth are by no means exhaustive. Only those key factors that had the most influence on the development of the definitions of success are highlighted and analysed.

Māori worldview theorising guided the development of the study. This theorising was then discussed and debated at the report writing stage with Professor Wharehuia Milroy in his capacity as cultural advisor to the project. This provided an opportunity to refine the thinking around the theorising. This is entirely consistent with the statement made earlier that emphasises that the framework for literacy achievement in Māori medium education should inform as well as be informed by Māori pedagogy.

Two guiding principles derived directly from traditional Māori theorising, form the premise for the descriptions of achievement. These will be dealt with in turn.

Principal one *Ā tōna ake wā* In his/her own time

This principle recognises among other things, that learning is a lifelong process. It also attests to the variability intrinsic in any set of learners in terms of rates of progress as well as propensity and capacity for learning. For example, traditionally, from conception children were exposed to and immersed in situations where complex bodies of knowledge such as *whānau and hapu* (family and extended family) histories were recited in complex forms of *waiata* (song)*, pakiwaitara* (stories) and *whakapapa* (genealogy). There was never an expectation that children should master this knowledge at that time but rather in time, the fragments of information would come together and become meaningful. This might happen earlier for some and later for others and more importantly, in his/her own time.

The notion of variability also extended to accepting that individuals would display strengths in some activities and weakness in others. The focus however, was on achievement so that the varying strengths of individuals were valued for the collective contribution they would make to the continued survival and prosperity of the group (*whānau, hapu)*. This is reflected in the use of *whakataukī* or proverbs that recognise and encourage desirable human attributes and endeavours and identify undesirable ones. Most of the latter kind focuses on attitude and lack of effort rather than failure in performance (competencies).

Descriptions of achievement in literacy for Māori medium education therefore ought to reflect and accept the variability that occurs between and with learners. It should also 'illuminate' achievement and be generous in setting the boundaries for defining success.

The graph developed in this study captures the actual performance and therefore the variability, of a fairly large sample of children over time. The bands on the graph and the stretch of the box plot allow for the variability in the progress of an individual learner or learners to be plotted and contrasted with the composite variability of a cohort group. The middle and upper areas on the graph define success in reading. The differences in shade indicate the extent of that success for the sample group. The bands of success presupposes and allows for the fact that children will travel a

different path in their literacy learning rather than being aligned to say a discrete set of markers or benchmarks. Any children whose instructional level falls within the lowest band should be automatically prioritised for closer scrutiny and provided with the appropriate levels of support to hopefully boost their performance in time.

The sample group[20] reflects the reality of a particular group of children at a particular time and who are affected by a particular set of circumstances. Clay refers to this as cultural relativity (1998, p. 85). She argues therefore that a developmental path that assumes predicability or uniformity of progress (norms) for a heterogeneous population ignores this important characteristic.

Children in Māori medium programmes form a fairly homogeneous group – more so than children in English medium programmes. Mainstream programmes have to cater for more extreme cases of cultural and linguistic[21] diversity as well variability in the impact of ecological factors such as the socio-economic status etc. The most significant source of diversity in Māori medium tends to be related to Māori language acquisition. Children's competencies in *te reo* are largely influenced by such things as the ability of the child's *whānau* to support their Māori language learning outside the school context, the language competency of the teachers, the effectiveness of programmes as well as a child's innate ability to learn a second or another language.

Given this homogeneity and the fact that the sample group comprised of four of the five identified language groups, increases the likelihood that the descriptions of achievement can be applied equally well to most children learning to read, write and speak in total immersion language programmes.

English medium programmes explicitly benchmark reading progress to chronological age. Originally, a reading age was assigned to text to indicate its readability (Elley, 1967). It has since become the benchmark for articulating the success (or failure) of

[20] The group is certainly a more homogeneous one than can be found in a collection of schools drawn from a variety of settings in mainstream education.

[21] The term used here refers to children enrolling in schools who have command of a foreign language and are learning English at school.

the learner in English (McNaughton et al, 2000). Reading ages are based on average performance i.e. the expectation is that the average five year old would be reading a text levelled for instruction for a five year old learner. The term average is problematic here as it relies on a linear notion rather than encompassing the variability described earlier as being desirable for a Māori medium context.

As in English medium, the text levels developed under *Ngā Kete Kōrero Framework* have also become the benchmarks for describing success in reading in Māori medium in this study. One of the major differences lies in the way these benchmarks are described. The English language method makes a direct link between the child and a personal characteristic or attribute of that child (i.e. his/her age) while the Māori medium approach employs an indicator external to the child i.e. a *kete* level. This is derived from cultural reasoning and is related to a preference to sometimes draw attention away from the individual and place it somewhere else – *kia kaua e whakahīhī* i.e. so as not to be prominent. The Māori language itself reflects this idea, where sometimes a passive construction will purposely be employed by the user to detract the attention from him or her and place it elsewhere. For example

Kua pānuihia e au te pukapuka The book was read by me

as opposed to

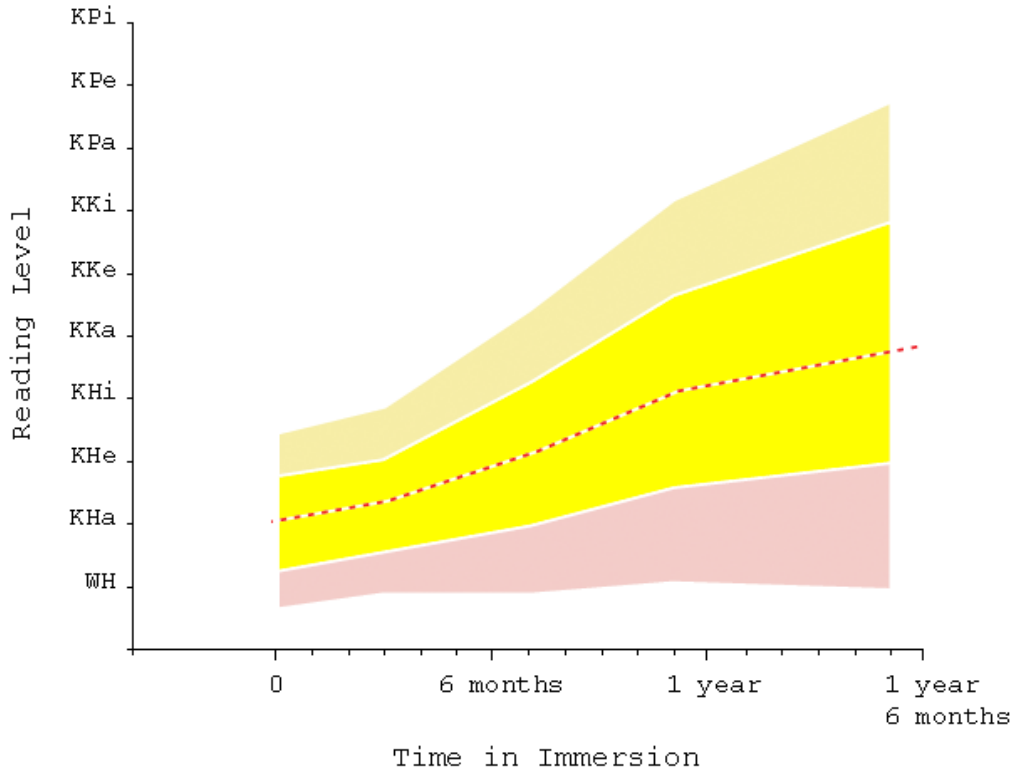
Kua pānui ahau i te pukapuka I read the book

The use of this passive construction here shifts the emphasis away from the subject of the sentence (the person) and places it on that person's action (reading) and the object of the sentence (the book). This is a way of demonstrating humility, a quality that is highly valued in Māori culture.

The setting of benchmarks to identify success (or failure) can also be an arbitrary exercise. For example, in School Certificate external examinations, the benchmark for success was set at 50%. The higher your mark, the more successful you were and vice versa. Marks were even scaled to ensure that fifty percent of the population of students passed and fifty percent failed in a particular subject. The pass mark could quite possibly have been set at 30%, which would have been a more inclusive description of achievement (i.e. 70% would have passed) or 60% that would have

been a less inclusive definition of success (i.e. 40% would have passed). The definition of success in *He Ara Angitu* study represented by the middle and upper bands on the graph also has an element of arbitrariness about it. The benchmark for success for example could have been placed at any of the boundaries of the coloured areas on the graph. Other options for consideration included

- From the lower line of the pink band capturing 95% of the children in the sample
- From the mean line capturing approximately 47% of the children in the sample
- At the intersection of the bright yellow and pale yellow line capturing about 13% of the children in the sample *or*
- From the upper line of the dark yellow band capturing only 2.5% of the sample so that only exceptional achievement would have rated as success



A desire to focus on achievement and success in literacy for Māori medium programmes (rather than underachievement) provided the rationale for deciding on the middle and upper bands as the benchmark for success. The description (graph) also allows children who may require intervention in reading to be identified and catered for.

Principle two *Kaua e whakaiti tangata*

The graph demonstrating the actual performance of the sample group includes a line identifying the mean or average. This was necessary in order to determine the boundaries of the achievement bands (see page 27). Only the bands (and not the line indicating the median) should be marked on future replications and application of the graph by schools. (See Appendix 5)

This is to try and reduce the temptation by some teachers, some senior managers in schools and possibly members Boards of Trustees to describe children's success using such terms as average, above average and below average, using the median as the terms of reference. It should also be noted that the time interval on the horizontal axis of the graph is labelled using time in immersion as opposed to chronological age. Again, this is an attempt to discourage the information in the definitions of success from being converted into reading ages. As stated by the Education Review Office

> *There will be no advantage in attempting to equate a level of skill in English with a level of skill in Māori. The tests in Māori will show the level of achievement and the progress made by students along a continuum of Māori language skills.* (1998, p. 17).

We would argue further that attempts to align Māori medium with English medium in this way would in fact be detrimental to Māori medium education as it invites comparisons in performance on unequal terms. In other words, expectations that second language learners (as is the case with most students in Māori medium) perform like first language learners of a language could result.

However, there is another reason that is embedded in cultural understandings for rejecting reading ages and references to chronological age and usage of terms such average and below average to describe achievement and progress.

This finds expression in such sentiments derived from a Māori world view such as the following:

Kaua e whakaiti tangata	Avoid belittling people
He mana tō te tamaiti	Preserve the *mana* of the child
Tiakina te wairua o te tamaiti me tōnā whānau	Protect the child's spiritual wellbeing and that of his/her family

The term below average and certainly derogatory descriptions such as

He is nine but only has a reading age of a five year old

are statements that can damage the child's *wairua* (integrity or self perception). With the importance Māori place on *whakapapa, (*genealogical links) this can also be a direct source of shame for the *whānau* (extended family). We are not suggesting that in order to protect the child's *mana* (integrity) we ignore the fact that s/he is having difficulty but rather that we talk about and describe such difficulties in ways that preserve the dignity of the child and therefore that of his/her *whānau* while also attending to their learning needs.

Toward developing a terminology

The language and terminology employed to describe achievement and success is often derived from the assessments or the literacy framework used to gauge that success. The framework developed in this project for capturing and representing the literacy achievement of students in Māori medium programmes differs structurally and philosophically from those developed for English medium. It therefore follows that how we talk about achievement is also likely to differ. There are terms that already exist in the Māori language that could be co-opted for use in this particular context and for these purposes. For example, Professor Wharehuia Milroy, (cultural advisor to the project) suggested the term *te pito mata* which literally means the 'underdeveloped navel' might be used to refer to students whose performance

registers in the lower band on *He Ara Angitu* reading graph. The metaphorical meaning i.e. 'the potential yet to be realised' would be applied in this case. This use of the term subtly shapes how we perceive the learner suggesting that we (teachers and *whānau*) as 'educators' have yet to find the way (or ways) to tap into and unleash the child's latent ability to achieve rather than pathologising the child and viewing them from a position of deficit and failure. This perception of the learner is consistent with the principles *a tōnā ake wā* and *kaua e whakaiti tangata* discussed in the previous section. Acceptance of variability in performance, that this child's achievement might differ from that of others is central to this idea. The challenge is to ensure that we assist the child to reach their (individual) potential.

Potential use and some limitations of the *He Ara Angitu* descriptions

The results and the descriptions of achievement in *pānui, tuhi* and *kōrero* developed in this study should be considered in light of the fact that they are derived from particular contexts. The participants in the study shared the following characteristics:

- All schools were state funded and therefore expected to adhere to the New Zealand Curriculum Framework
- The majority of the schools were designated decile one
- All schools had their reading resources organised according to *Ngā Kete Kōrero* Framework
- Literacy instruction was delivered exclusively in the Māori language
- The vast majority of children had attended a *kōhanga reo*
- All of the children had been in an immersion in Māori programme since enrolling in primary school at aged five
- For most children, Māori is their second language
- The school site provided the most opportunities for exposure to the Māori language

Sources of variability included the following:

- The schools represented a diversity in the provision of options for immersion education e.g. immersion unit, *kura kaupapa*

- They were located in metropolitan, urban and semi rural areas and the number of children at each school[22] as well as teacher – child ratios[23] varied
- The language fluency levels of teachers varied in the classrooms targeted by the study
- The total number of years teaching experience varied, as did the number of years spent in immersion programmes. There were also differences between teachers in the number of years spent working in junior classes
- Teachers varied in their use of *Pānui Haere* to identify the reading levels of children from no administrations to regular and frequent administrations of the assessment
- There were variations in the emphasis on instruction in phonemic awareness in the classroom programme and the degree to which this awareness was integrated with other literacy activities

The more the profile of schools outside the study sample match this profile, the more confident they can feel about applying the definitions of success in literacy to their particular children.

The more classrooms, children and teachers differ from those that participated in the study, the more the application of the results need to be treated very cautiously (Rau. pg. 36, 1998). The definitions of success developed here therefore may not generalise as successfully to programmes operating at levels less than 80% immersion in Māori. Children, who first enrol into immersion after five years of age or have had little exposure to Māori language prior to entering school, may very well display different profiles of progress. So too might children who are not introduced to reading instruction in the first year of schooling[24].

All schools in the study are located within the *Tainui*[25] tribal area. Tribal boundary however should not be used as a basis for rejecting the descriptions of achievement

[22] Total school roll ranged from 80 the smallest, to 370, the largest

[23] Ratios varied from one to 12 in one school to one to 35 in another

[24] This description applies to programmes that focus primarily on oral language development as a prerequisite to reading instruction

[25] It does not necessarily follow of course that all teachers and all children in these schools are of *Tainui* descent.

developed in this study. The framework of literacy achievement should generalise successfully to similar contexts in other tribal areas. Arguably, (some) schools within *Tainui* are considered to be at the forefront with many of the literacy initiatives for Māori medium having been developed in this region. Any marked differences in the performance and achievement of children in other schools are more likely to be associated with such issues as access to Māori medium specific professional development and ongoing support as well as other factors related to teacher effectiveness etc.

The descriptions of achievement developed in this project for *pānui, tuhi* and *kōrero* should not be viewed as static. Factors such as increased provision and improved quality of teaching and learning materials, enhanced teacher knowledge about literacy matters and second language learning methodology, possible increases in levels of Māori language support in homes as the Māori medium graduates of today become the parents of tomorrow should necessitate future redefinitions of achievement in literacy. One would expect advances in the performance and achievement levels of children in time. There is the possibility that higher levels of achievement in the descriptions developed in this study may eventually become minimal standards. As articulated in the Literacy Report any definition of success should motivate children, and teachers (sic) to soar. (1999, p 7).

There is scope for schools or clusters of schools or tribal areas to develop their own descriptions of achievement if for some reason the ones developed in this study do not provide valid expectations in literacy for their children. Schools operating at lower levels of immersion (i.e. less than 80%), schools whose children consistently perform exceptionally well or exceptionally poorly compared to the sample group could use historical data collected over time to develop their own personalised definitions of success. For the latter types of schools, there would need to be mechanisms in place to ensure that these redeveloped definitions did not lead to lowered expectations of achievement. Any definitions of success should not be used to compare the performance of one school against another. This practice does not necessarily improve outcomes for children, can leave teachers feeling vulnerable and degraded and is generally unhelpful. (Wyatt-Smith, 2000).

The descriptions of achievement from *He Ara Angitu* project can assist schools with Māori medium programmes to fulfil the requirements of the New Zealand Curriculum Framework, by presenting a more refined picture of expectations in literacy than perhaps already exist. They provide normative information in the early years (again where none currently exists) for monitoring individual student achievement, for collating individual students' achievement in a form that provides a clear school profile of the overall levels of student achievement and reporting that achievement to parents.

A more robust picture of achievement is also possible because of the strength of the relationship between *Ngā Kete Kōrero* reading levels and *Ngā Kete Kōrero* writing levels that were developed in this study.

Schools can use a common means of identifying and talking about writing achievement in direct relation to reading achievement that has been specifically developed for Māori medium programmes and is derived from Māori theorising other than those provided by the *Te Reo* curriculum document. (Refer to earlier discussions regarding validity issues associated with the development of the curriculum documents in Māori).

To date the assessments *Pānui Haere* in reading and *Kī Mai* in oral language have provided formative information and are used primarily to guide teaching by identifying the next learning steps for individual children. This study extends their use for summative and accountability purposes by

- Enabling the collection and collation of cumulative information of individual progress in literacy

- Providing information that allows for the evaluation of literacy programmes and the extent to which they are catering for particular groups of children on the basis of gender or language competency for example.

- Providing information in a form that addresses reporting framework outcomes

One of the limitations of the descriptions of achievement however is that they only provide information for children in their beginning years of schooling. While the trend lines on the reading graph for example suggest the likely bands of success for children just beyond 17 months, these need to be confirmed. Also the descriptions need to be extended to include learners in immersion after even longer periods of time.

The validity and reliability of the descriptions of achievement largely depend on correct administration of the assessments and interpretation of the results. It was apparent from an analysis that the teachers in the sample were inconsistent in their use of *Pānui Haere* in making judgements about instructional reading level. This is probably indicative of most teachers in Māori medium education and reflects the need for continued professional development to ensure such standardised procedures are integrated effectively into teaching practice. As a new procedure, the collection and analysis of children's writing samples using the descriptors will need to be introduced to teachers.

Despite the fact that the descriptions of achievement in *He Ara Angitu* are based on Māori worldview theorising, are compatible with educational theorising and interface with some aspects of Western derived pedagogy, some will be resistant to a framework of literacy success that deviates from mainstream practice. For some teachers, senior management and other educationalists both Māori and non-Māori, accepting these descriptions of achievement will require huge shifts in mindset. However, we believe that the arguments and rationales put forward in this report will mean that the effort will be well worth it.

FURTHER RESEARCH

He Ara Angitu, would benefit from further research. This includes:

- Increasing the sample size for the children who have been in total immersion for 12 to 18 months to address measures of validity.

- Extending the framework to include children who have been in total immersion literacy programmes for more than 18 months

- Exploring the extent to which the assessment framework might generalise to other tribal areas, geographical locations

- Developing a corpus of specific language consistent with a Māori world view to describe and interpret children's achievement in the framework

- Implementing and integrating *He Ara Angitu* into a school's current literacy practices and monitoring any changes in pedagogy that may result

- Continuing to develop and articulate a rationale for *He Ara Angitu* derived from a Māori world view

- Investigating parent reaction and response to this method of representing their child's achievement and progress

- Developing effective ways of assessing changes in oral language competency over time, with the view to producing even more robust and comprehensive definitions of achievement in literacy

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APPENDICES

APPENDIX 1 Sample assessment sheet for Child CB00/14 at probe 2 (Reading)

Tamaiti CB 00/14 Rā whānau 5/6/95 Ōna tau 5 marama 3 Te rā 18/9/00.

Te roa o te ako i roto i te reo Māori i te kura *(Tuhia ko tēhea te reo whakaako mō ia tau)*

Tau	<1	1	2	3

RM = Rūmaki i te reo Māori (80-100%) RR = Reo rua RT = Reo tauiwi

Kōrero Māori ai tōna whānau ki a ia *(porohitahia)* karekau/paku noa iho i ētahi wā i te nuinga o te wā

Tuhia te tuhinga e pānuihia ana e te tamaiti. (Tuhia anō ki runga i tētahi pepa mā te tamaiti hei pānui, whakamahia rānei te tuhinga kua tāngia mai i te pukapuka)

✓ te / Kei keri / te a / keri

Ra / a peti. / Rāpeti.

Kāhui Whanonga Pānui	*Āe*	*Āhua*	*Kāore anō/ Kāore i kitea*
Ka tohu ki te kupu tuatahi	✓		
Ka pānui mai i te taha mauī ki te taha katau	✓		
Ka hoki anō ki te taha mauī	✓		
He rite te kupu pānui ki te kupu tuhi			✓
Ka whakamātau i ngā kupu	✓		
Ka tohu ki tētahi kupu waiwai kua whakahuatia e te kaiako *(te, ngā, ki, haere ...)*			
Ka aro atu ki te māramatanga	✓		
Ka aro atu ki te hangarerenga o te reo Māori	✓		
Ka whakamahi i ētahi kitenga (reta, kupu, āhua o te kupu)			✓

Ngā tirohanga / ngā mahi hei tautoko

APPENDIX 2 Sample assessment sheet for Child CB00/14 at probe 2 (Letter identification)

TE TĀUTU RETA — HĪTI KAUTE

Te Rā: 18/9/00.

Ingoa: CB 00/14 Ōna tau: 5.3

KAUTE WHAKAMĀTAUTAU: 6 /33

Kaiwhakawā: _____ Rā whānau: 5/6/95.

RŌPU HAUWHĀ:

	I	T	Kupu	E hē ana		I	T	Kupu	E hē ana
A				M	a		~~✓~~		o
M				T	m				pu
O		✓			o		✓		
Ng					ng				+
K		✓			k		✓		~~k~~
U				M	u				m
W				T	w				ta
H				M	h				te
N				Ta	n				mo
E		✓			e				ta
R				Pu	r				ke
I				E	i				u
P				I	p				ma
Ng				O	ng				i
T				E	t				u
Wh					wh				o
					a		✓		
		3		NGĀ TĀPEKE			3		

Ngā pōhēhē:

Ngā reta kāore i mōhiotia:

Ngā kōrero whakatau:

Ngā whakamārama:

I = Ingoa arareta: tohu tika

T = Tangi o te reta: tohu tika

Kupu = Tuhia te kupu ka hōmai

E hē ana = Tuhia te kōrero a te tamaiti

KAUTE TŌPU

APPENDIX 3 Sample assessment sheet for Child CB00/14 at probe 2 (Oral language)

[redacted]

INGOA CB 00/14 TE RANGI 8/9/00 NAMA AKORANGA _____

[redacted]

Pātai tuatahi	*Pātai tuarua*	*Pātai tuatoru*	
He aha tōnā whānau i kore ai i whakapono ki a Tama?	Hei aha te tātua?	He aha i noho kūpapa ai te taniwha? Kei te weriweri	1

[redacted]

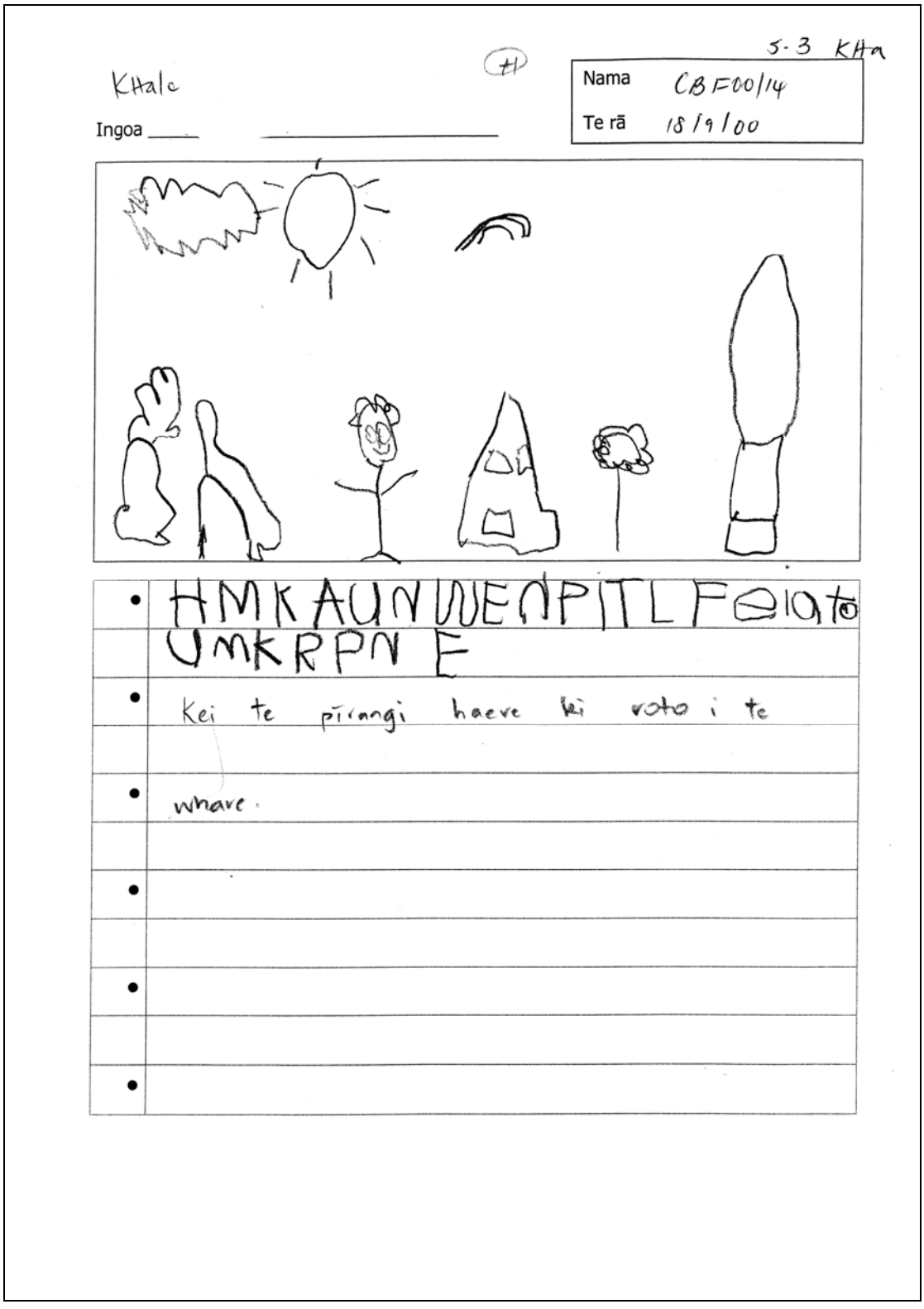
0 Te Kākano:	*1 Te Tipu*	*2 Te Rea*	*3 Te Aka*	
Kāore he kōrero	He tapanga mama, he kōrero motumotu	Rerenga kōrero poto, māmā hoki hei hono whakaaro	Pakari te hanga kōrero	2

[redacted]

0 Te Kākano:	*1 Te Tipu*	*2 Te Rea*	*3 Te Aka*	
Kāore he kōrero	He tapanga mama, he kōrero motumotu kia mōhio ai ko wai, he aha ā ki hea pea rānei.	Rerenga kōrero poto, māma hoki kia mōhio ai ko wai, he aha, ā ki hea āhea rānei. He whāiti ngā kupu whakakaha, whakangohe rānei	Rerenga kōrero whānui kia mōhio ai ko wai, he aha, ki hea āhea pea, pēhea rānei ME ngā kupu whakakaha, whakaiti, kupu āhua hoki.	1

	Kōrero Āpiti	
0 Te Kākano: kāore he kōrero ***1 Te Tipu:*** māmā te korero purākau anō ōrite te hā o te reo, mama te kōrero ā tinana ***2 Te Rea:*** whakaahua ā kanohi, ā tinana, ā kōrero ***3 Te Aka:*** puta te makomako o te kōrero ā waha, ā tinana, ā kōrero ME tētahi kiwaha	Kāore he kōrero ☐ I roto i te reo o tauiwi anake ☐ Ētahi kōrero i te reo o tauiwi ☐ I roto i te reo Māori anake ☑ Used body lang. to demonstrate some unknown words.	2
0 Te Kākano: kāore he kōrero ***1 Te Tipu:*** āhua te raupapa whakaaro me te kore kiko mā ngā tapanga, rerenga kōrero motumotu rānei ***2 Te Rea:*** ētahi tapanga, rerenga kōrero māmā rānei, whārangi ki te whārangi, pikitia ki te pikitia ***3 Te Aka:*** hono whakaaro hei raupapa tika ngā whakaaro	***Kōrero Āpiti***	2
0 Te Kākano: kāore he kōrero. Rerekē rānei te kōrero pūrākau anō ***1 Te Tipu:*** 1 te take kua kōrerotia ***2 Te Rea:*** 2-3 ngā take kua kōrerotia ***3 Te Aka:*** 3+ ngā take kua kōrerotia	***Kōrero Āpiti***	2

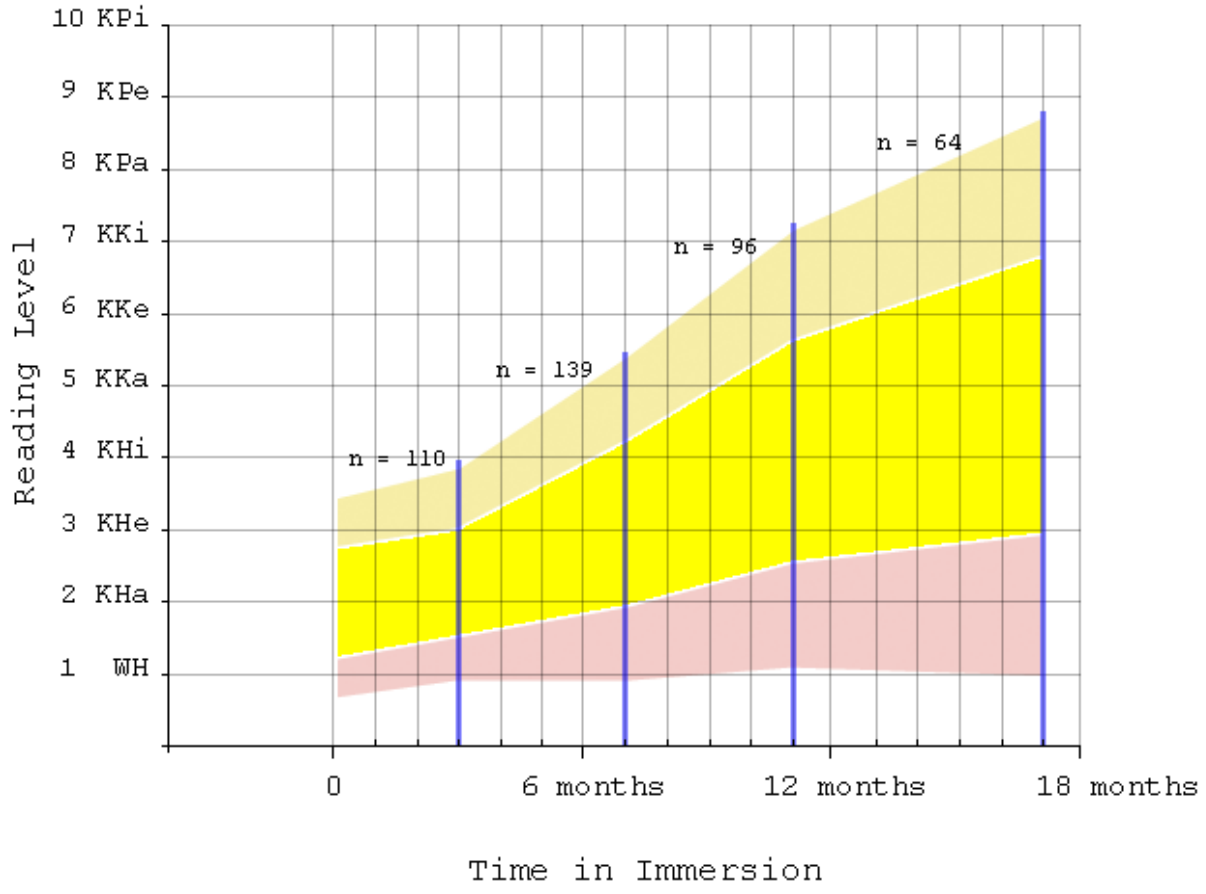
APPENDIX 4 Sample assessment sheet for Child CB00/14 at probe 2 (Writing)



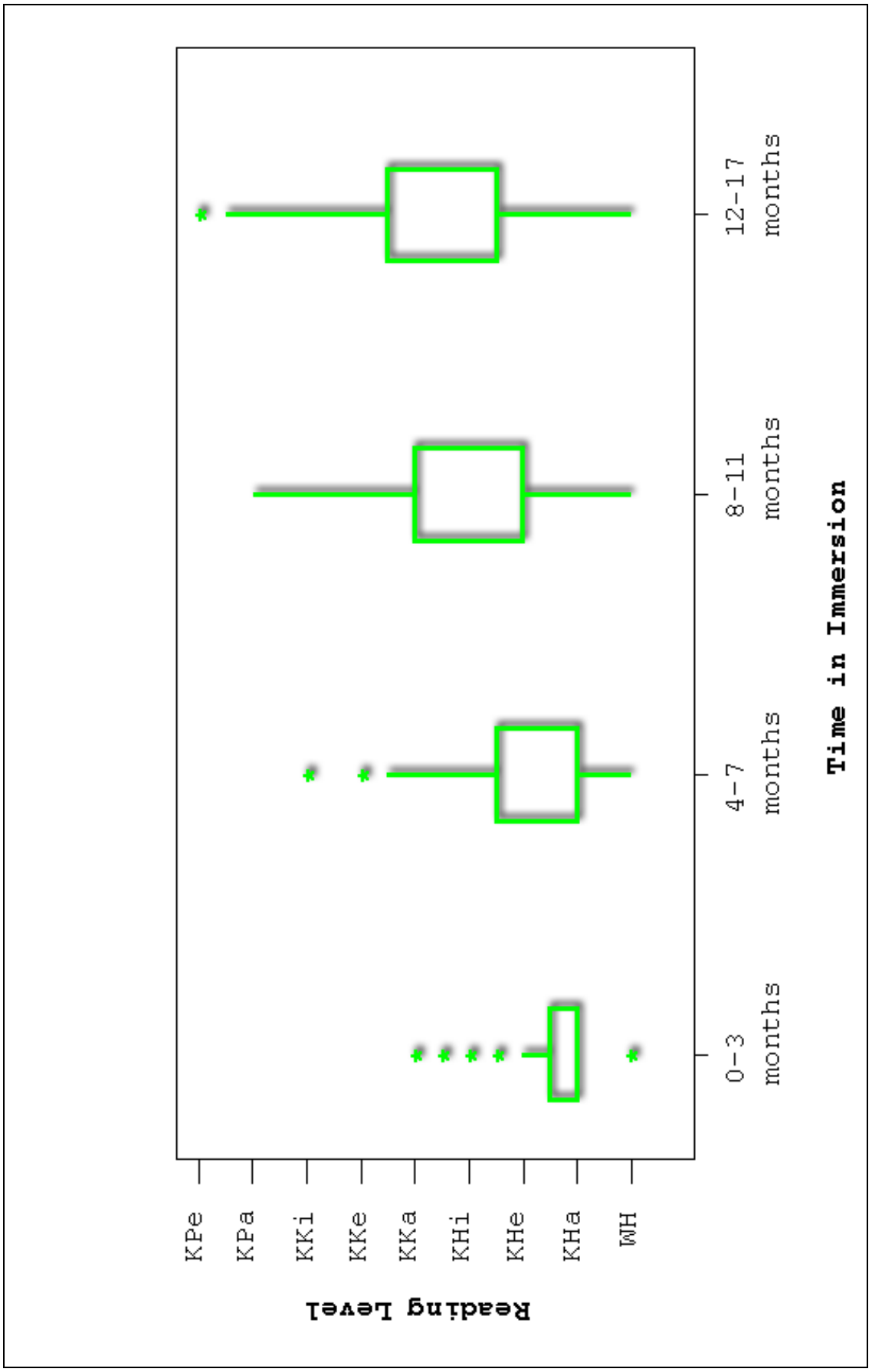
APPENDIX 5 *He Ara Angitu Graph*

HE ARA ANGITU:PĀNUI

2000 - 2001 Data derived from year 0 to year 2 students in total immersion classes from 8 schools located in Tainui



APPENDIX 6 *He Ara Angitu* Boxplot



APPENDIX 7 *Ngā Kete Kōrero* writing descriptors: *Whenu Harakeke*

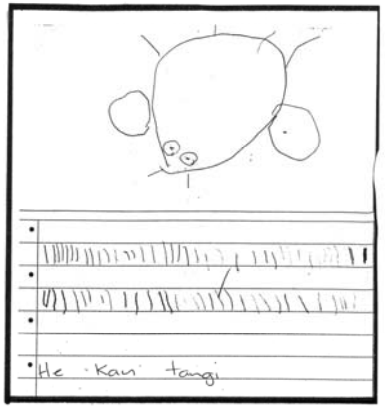
WHENU HARAKEKE (WH)

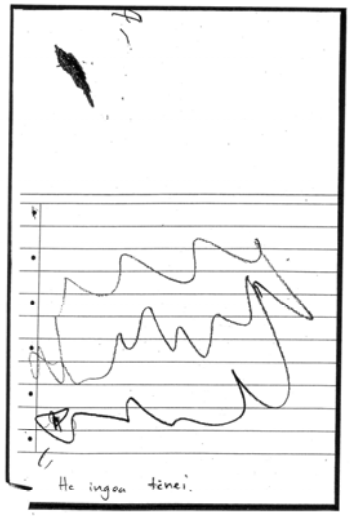
Recording

- Repetitious use of a limited number of personal symbols or approximations of letters or numerals
- Beginning to demonstrate an awareness of directionality by indicating where print starts

Message

- Might assign a message to symbols comprising single words, short phrases and might include some words in English





APPENDIX 8 *Ngā Kete Kōrero* writing descriptors: *Harakeke*

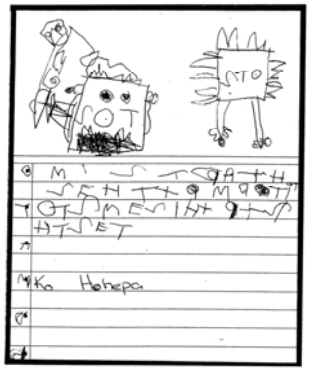
KETE HARAKEKE (H)

Recording

- Writes random strings of letters that might include numerals
- Might separate letters into groups to resemble words
- May demonstrate inconsistencies in left to right directionality
- Beginning to, or writing own name

Message

- Letters and placement of letters do not correspond to/match the story dictated
- Number of words recorded may not match the number dictated
- Dictated sentences might comprise of short phrases to complete phrases with possibly some errors in grammar



APPENDIX 9 *Ngā Kete Kōrero* writing descriptors: *Kiekie*

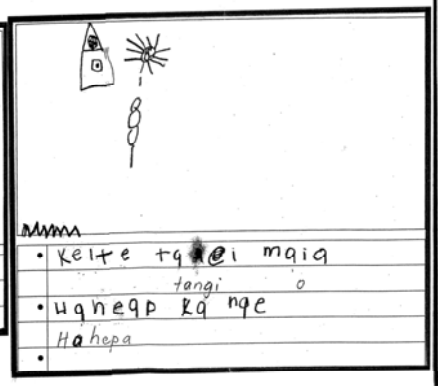
KETE KIEKIE (K)

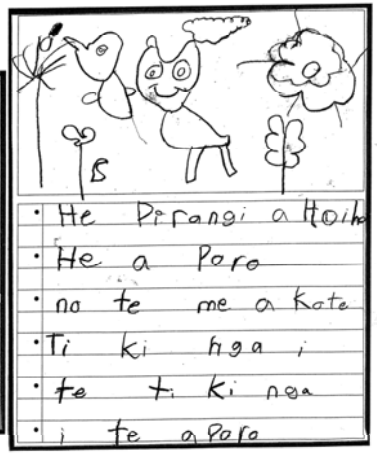
Recording

- Writing many words correctly and providing close approximations for others'
- Beginning to use capital letters appropriately
- Recording two or more sentences
- May be splitting words into sound clusters when recording

Message

- Recording more than one idea
- May elaborate on some ideas or repeat an earlier idea
- Some ideas tend to be fragmented and unconnected to previously expressed ideas
- Repetitious use of language structure





APPENDIX 10 *Ngā Kete Kōrero* writing descriptors: *Pīngao*

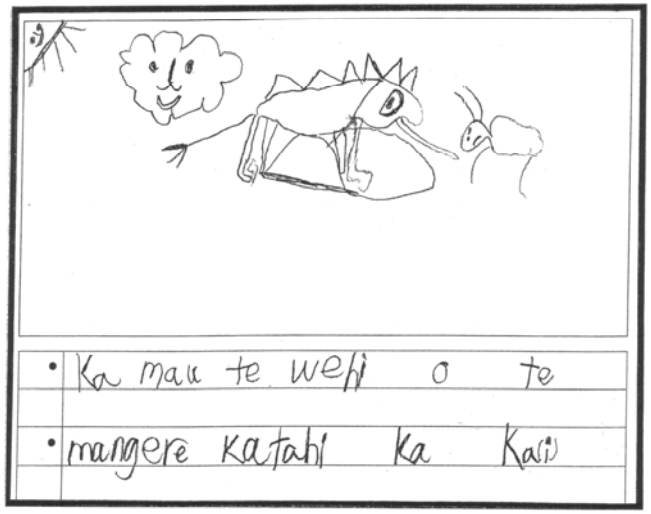
KETE PĪNGAO (P)

Recording

- Recording most words correctly (letter sound match)
- Recording longer stories (1/2 page or more)

Message

- Story structure to indicate the child is following a sequence
- Ideas most explicitly linked
- Elaborating on some ideas
- Beginning to vary use of language structure



- Ka mau te wehi o te
- mangere katahi ka kasi

- Ingoa Whakata i haere au me a
  Whaea ngaire kite kite ia
- hohepa te Puku i Pukei maua
- i Whangai maua i roto i
- te ra atahua he atahua
- a hohepa te Puku i kite
- inga manu e rua i (runga)
- te rakau nui i Piki
- tetahi Pepi i