Responsive socio-cultural contexts: Supporting five year olds to become literate in a second language

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Abstract

Learning one's own indigenous language and culture as a second language learner within formal mainstream education settings can pose many challenges, especially for students who have been raised in the dominant first language and who are just beginning school.

This paper discusses a Māori language resource used by a Māori immersion teacher to respond to these challenges. This resource utilises community support to develop students' phonological awareness while simultaneously increasing their oral language. This study shows that within a relatively short period of time, students' phonological knowledge improved along with their confidence and ability to speak in Māori. With these skills they were then able to progress more successfully to becoming literate in Māori, their second language.

Key words

Māori medium education, bilingual learners, second language learners, phonological awareness.

Background

Historically, teacher education, curricula, teaching pedagogies, resources and student services have been associated with a world-view that has not always appreciated the place of indigenous languages and cultural practices (Smith, 1999). In New Zealand, accessing the curriculum through the indigenous Māori language has been available in alternative Kura Kaupapa Māori[i] schools and also in some mainstream schools for almost three decades (May, Hill, & Tiakiwai, 2004). With Māori medium education still developing in New Zealand, a key issue has been the lack of research and data about

language acquisition, specific to these contexts (Hohepa, 2008). Accordingly, one of the goals of Ka Hikitia, the Māori Education Strategy (2008), is to strengthen Māori language research.

Learning one's own language and culture as a second language learner within formal education settings can pose many challenges, especially for students who have been raised in the dominant language and who are just beginning school. For example, while the need for Māori language learners to be exposed to the most expert language models is clearly understood, many teachers of Māori are themselves second language learners. In a recent study by Hohepa (2008) only five out of 21 teachers (approximately 24%) from five Kura Kaupapa Māori were native speakers of te reo Māori. This places the rest of these teachers (over 75%) under pressure to develop their own proficiency in a second language as well as to teach through the medium of Māori throughout all areas of the curriculum (May & Hill, 2005). Despite the strong resurgence to revitalise Māori language, English is still the majority language spoken and heard in most New Zealand communities. So all-pervading is English in the wider community, it is the language likely to be used by the majority of parents to communicate in the home. Furthermore, it is also still the first language of the majority of students attending in Māori immersion settings. While a recent survey showed that increasing numbers of New Zealanders are both using and understanding Māori language (Research New Zealand/Te Puni Kokiri, 2007), this language is still seen to be under threat (Bauer, 2008). Māori parents who have opted for Māori immersion education want their children to be strong in their own culture and able to speak Māori fluently and successfully. A report by Campbell and Stewart (2009) found that Māori parents choose Māori immersion education because of their

> deeply-held values, and the resulting desire for their rangatahi to continue their education through te reo and tikanga Māori ... they consciously choose to have greater autonomy over key decision-making in education, with regard to Māori cultural aspirations and social preferences. (p. 33)

However, they also want their children to be successful in the English culture and language (Baker, 2001; Berryman, Glynn, Togo, & McDonald, 2004).

Socio-cultural theories

Socio-cultural theories of human development (Bruner, 1996; Rogoff, 2003) point to the importance of understanding the relationships and interactions between learners and their teachers and subsequently between schools and their home communities. These theories of learning stem from the core idea that intellectual and social development are interdependent (Glynn, Wearmouth, & Berryman, 2006). Through active engagement with others in the social and cultural contexts of their own families and homes, children learn to understand, communicate, relate and interact. These contexts provide the values, beliefs and practices that will shape each learner's *cultural toolkit* (Bruner, 1996) and thus help them understand and make sense of the new situations in which they will find themselves, and how they will respond in those situations. Responsive social contexts such as home, in which children learn their first language, illustrate the importance of authentic shared interactions between parent/caregiver and child (Gregory, Long, & Volk, 2004; Rogoff, 2003). In this regard, Tavener and Glynn

(1989) have described responsive social contexts as those that give learners opportunities to initiate, provide cooperative learning contexts and opportunities for responsive feedback. The power to decide what the focus of an interaction might be, as well as how to initiate and end that interaction, is exercised jointly and collaboratively. The roles of teacher and learner in this type of learning context are interchangeable and reciprocal. This reciprocity is embedded in the Māori concept of ako (Pere, 1994). Each can learn and be supported by the other. When children initiate oral language interactions, parents and peers tend to act as a responsive audience rather than as correctors or evaluators.

Importantly, this view of learning is underpinned with the understandings that learners have active agency in their own learning and that valuable learning is acquired through social interactions with active others (Glynn et al., 2006). By being responsive to, that is, by attending to the experiences of students and family, the culture of the home is better able to be centralised within the pedagogy of the classroom. Thus the learning of new concepts can be aided through the creation of associated responsive links connecting prior experiences and knowledge from the home and community to new classroom learning. In order to support the learner to assume active agency in their own learning, the content of lessons must be meaningful and of importance to them. Vygotsky (1978) further contends that to be most effective, "[t]he only good learning is that which is in advance of development" (p. 89), that is, the most effective learning arises from interactions oriented towards what Vygotsky terms the individual learner's zone of proximal development.

Previous related research

Important connections between Māori language acquisition and socio-cultural learning were highlighted by Hohepa, Smith, Smith and McNaughton (1992) in their findings from an observational study of oral language in a New Zealand kōhanga reo (Māori language pre-school settings). They identified how through the use of language in social interactions with significant others, intellectual development was also occurring. Royal Tangaere (1997a, 1997b) made another important contribution when she highlighted the fundamental process of revitalising Māori language and culture in kōhanga reo through a discussion of the effective support for learning that occurs when young children interact with more competent adults, siblings or peers in the zone of proximal development in ways that enable them to achieve a higher level of skill and understanding than they could achieve on their own. This concept is fundamental to understanding learning within social contexts and has particular importance in conceptualising ways to support students who may experience difficulties in language acquisition for whatever reason (Glynn et al., 2006). The development of the Kawea Te Rongo resource (Berryman, Glynn, et al., 2001; Specialist Education Services, 1999) supplied more information in this area. This resource provided resources to assist teachers and families to identify individual language learning needs of students prior to attending or on entry to Māori medium schools. It also provided suggestions for collaborative and interactive language learning activities to use at school or with families at home. Research undertaken during its development identified that students entering Māori medium settings at five could be generally classified into one of four, language proficiency groups. These groups included students who communicated with others

- mainly in Māori;
- in Māori and in English;
- mainly in English;
- in neither good English nor good Māori.

Speech and/or hearing impairments or poor pre-school language models may result in the inability of some students (group 4) to speak well in either language.

The important and positive associations between learning Māori language and Māori cultural values were highlighted in research on the progress of kōhanga reo students by Cooper, Arago-Kemp, Wylie and Hodgen (2004). However, they also highlighted that for 78 percent of the parents/caregivers of the children in their study, Māori was a second language (p. xxii). Literacy acquisition and achievement and the use of assessment in Māori medium education was also explored by Rau (2005), who stressed that Māori needed "to be able to control curriculum content and its delivery as well as define achievement on their own terms" (p. 428). Research by McNaughton, McDonald, Barber, Farry and Woodard (2006) that looked at children's literacy and language over the first year in Māori medium (Year 0 to 1) found that "a sound literacy programme at the beginning of Māori medium schooling need not compromise the goals set for developing and revitalising Te Reo Māori" (p. 50). Hohepa (2008) discussed the wide variability of assessment scores related to reading comprehension in Years 4 to 8 in five Kura Kaupapa Māori and the implications for instruction (p. 82). This paper endorses earlier research and further explores phonological awareness in terms of the emerging language development and literacy acquisition in a second language by groups of five to seven year olds participating in Māori language immersion settings.

Phonological awareness

Phonological awareness is an awareness of sounds in spoken rather than written words (Stahl & Murray, 1994). Mattingly (1972) suggests that phonological awareness refers to the ability to explicitly identify and access the sound structure of a language. The competence associated with phonological awareness is twofold, first, an awareness of sound segments in words, and second, the ability to manipulate those sound segments (Ball & Blachman, 1991).

Using a wide range of research from differing populations and alphabetical languages, Gillon (2004) concludes that

> children who approach literacy instruction with strong phonological awareness knowledge are likely to succeed in early reading and spelling. In contrast, children who demonstrate very poor awareness of the phonological structure of words are more likely to experience difficulty in acquiring competency in reading and spelling. (p. 309)

Gillon's (2004) research also indicates that increased phonological awareness, leading to increased literacy gains, can be accomplished with children as young as three or four years of age.

While international research has demonstrated that literacy is best achieved by becoming literate in one's primary language first (Cummins, 1984; Skutnabb-Kangas & Cummins, 1988), many of the students in Māori language settings are being immersed

and educated in a language that is not their home language and they are being taught by teachers for whom Māori is also their second language (Bishop, Berryman, & Richardson, 2002; May et al., 2004). Even though solutions still seem some way off, this continues to have associated issues that need to be addressed within the New Zealand context (May & Hill, 2005). Given sufficient exposure and experiences with oral Māori language prior to school, students learning to read in Māori medium junior classrooms are usually able to make the connection between the sounds of letters and their shapes with little or no specific or formal teaching. However, because of the many variables associated with the acquisition of language in a society where Māori is not the dominant language, some students appear to have no clear awareness of the phonemic constituents of speech in Māori. Furthermore, they may also be confusing phonemic knowledge in Māori with the phonemic constituents of speech in English. Students such as these often require close attention in order to make more effective decisions about appropriate learning.

The research in this paper explores strategies to support students with beginning Māori language skills to increase phonological awareness while simultaneously developing a more robust oral language base in preparation for reading. Such students need additional assistance in this area if they are to progress more easily to reading. TATA is a Māori language resource designed specifically with these children in mind using teacher aide and/or whānau support networks.

TATA, a Phonological Awareness Programme

While recognising the usefulness of Tatari Tautoko Tauawhi, a Māori language one-to-one reading tutoring procedure (Glynn, Atvars, Furlong, Davies, Rogers, & Teddy, 1993), for children reading at the early fluency (kete pīngao) and fluency (miro) reading stages, a group of teachers identified that students working at the emergent reading (kete harakeke) and early reading (kete kiekie) stages needed oral language and phonological assistance if they were to begin reading more successfully. For these mainly second language learners of Māori, English vocabulary and phonemic knowledge tended to over-ride their Māori vocabulary and phonemic knowledge. Teachers suggested that some of these students were having difficulty isolating and manipulating sounds in Māori words and matching these sounds to letter and word shapes. In short, their text reading skills were not yet at a level where they could benefit from participating in reading activities. TATA was developed (Berryman & Rau, 2003) based on this specific need and aimed at building Māori vocabulary and language structures as well as improve phonological awareness of the Māori language.

TATA, named from the first two and last two letters of **Tāutu Reta** (alphabet), involves both a programme and a specific assessment. This resource is used to simultaneously develop language competency and phonological awareness by involving students in one-to-one tutoring sessions with a trained tutor. Sessions last for 10 to 15 minutes and are held at least three times a week. During each session a range of interactive exercises used to promote oral language communication also assist students to identify and manipulate the sounds in some of the words they are using and to connect some of these sounds to letter shapes. These exercises utilise a collection of small toys and other items found in the home environment and in nature. Throughout these interactive exercises, tutors provide specific responsive feedback and feed-forward that both engages and extends the students' dialogue.

The assessment consists of three separate items: a random selection of 15 small items (one for each letter of the alphabet); a large A3 laminated mat showing the 15 letters of the Māori alphabet in a large table and a score sheet for recording student's responses. The assessment begins with the assessor randomly selecting 15 small items, one for each letter of the alphabet. These are placed in a tray ready for the student to self-select items. Once an item is selected they are asked to name the item (ngā kupu mō te taputapu), to isolate the initial sound (te tangi o te pū) and then to place the item on the appropriate letter of the alphabet mat (te ahua o te pū). The assessor provides up to five seconds of thinking time for each response. If the student is unable to proceed, a correct response is modelled in a supportive way. If the student makes an incorrect response, again a correct response is supportively modelled. During the assessment, the 15 items are consistently worked through and scored. The assessment tool provides both summative and formative information about the student's knowledge of letter sounds, letter names and letter shapes. This information is then used to personalise the student's TATA programme by targeting the letters that are not well known while simultaneously reinforcing all others.

Preliminary trials

TATA was initially trialled and evaluated in a number of Māori medium, bilingual settings. Outcomes showed positive phonological and oral language growth for all target students, as well as strengthened relationships between their schools and home communities (Berryman, Boasa-Dean, & Glynn, 2001). A further trial of the TATA programme (Berryman, Glynn, & McDonald, 2004) that first monitored 14 students from five schools over 10 weeks, working in their classroom programme alone, produced an overall effect size of 0.30 when pre and post assessment results were analysed and compared.[ii] However, when the TATA programme was then included alongside the classroom programme to the same 14 students over another 10-week period, the analysis of pre and post assessment results produced an overall effect size of 1.72. Therefore, while teachers had resisted any attempt to undertake a control group comparison study, these studies did provide researchers with greater confidence that implementing TATA alongside the teacher's existing classroom programme could provide real benefits for students.

TATA programme

The next TATA study took place in a Māori immersion junior classroom where 80 to 100 percent of the curriculum was delivered in Māori. The TATA programme was introduced to all new entrants to continue to their oral language development in the Māori language, while simultaneously developing their phonological awareness prior to their beginning formal reading. When five-year-old students enrolled in this classroom, they were put on a waiting list for TATA. Five students at a time were able to take part in the TATA programme, which involved one-to-one tutoring with a trained tutor for 10 to 15 minutes, four days a week. During the sessions, the tutor and student collaborated in interactive language-learning exercises that were designed to help build on and extend students' Māori language. In keeping with the TATA programme, small items were selected by the student and used as the basis for naming the item and talking about it; identifying sounds in words; and matching items to letters. Once students had

developed competency in identifying letter sounds and names (as identified by the TATA assessment), they participated in print-related literacy activities.

Students participated in the programme for between six to 16 weeks (see Table 1 for average number of sessions) depending on how quickly individual students developed their phonological awareness. As students left the programme others were introduced into it, so that at any one time, five students were working with the tutor on TATA. In this way, a total of 16 students from the junior class participated in the TATA programme, 15 students with kōhanga reo experience from Year 1 and one student from Year 2 with no kōhanga reo experience. Previously, this child had been frequently absent due to illness. Of this group, 10 students had both pre and post assessment results and have been reported on in this paper. Of the other six students, one left the school before completing the programme and the other five students were still participating in the programme when these data were analysed.

Results—quantitative improvements

Students were assessed using the TATA assessment prior to the programme and again when they completed the programme. Table 1 shows the average results of all three assessment scores (naming the item, letter sound and letter shape) across four groups of students, for pre and post assessments. In the first column the students are arranged into four separate groups according to age in months as shown in the second column. This is followed by the average number of TATA sessions students received, the average pre and post assessment scores in the two shaded columns (maximum score is 45), and in the last column, the average gain made by each group from pre to post assessment.

Table 1.   Average pre post gains for TATA students

Students N=10	Age in months	Average sessions	Average pre	Average post	Gain
Group 1 (N =3)	61–63	66	15	43	29
Group 2 (N = 3)	66	33	18	42	24
Group 3 (N = 3)	68–70	27	18	40	22
Group 4 (N = 1)	80	51	9	38	29

Group 1 were the youngest students (from 61 to 63 months at baseline). This group had the highest average number of TATA sessions (66 sessions) and recorded an average gain of 29 points from pre to post assessment. Group 2 students were all aged 66 months at baseline. This group had an average of 33 TATA sessions and recorded an average gain of 24 points. Group 3 students ranged in age from 68 to 70 months at baseline. They had an average of 27 TATA sessions and recorded an average gain of 22 points. Group 4 involved the Year 2 student who was a year older (80 months at

baseline) and who had not attended kōhanga reo prior to starting school. Formal Māori language experiences for this student had, in effect, begun the previous year when she had entered this class at five. The teacher, Riria, talks about this student.

> Prior to the programme being introduced, this student was frequently absent from school due to illness, therefore hindering her consistency with learning. Even though it took longer than the others the one to one that TATA provides enabled this student to continue learning at her pace as well as providing stability and developing knowledge.

This student began with a score of nine, much lower than all other students. However, after 51 TATA sessions she recorded a gain of 29 points (as high as the highest average gain) while also improving her confidence and ability to speak Māori, as assessed by the teacher.

Effect sizes

Overall effect sizes for the 10 students participating in this TATA programme, on the three separate assessment items, were calculated from the TATA pre and post assessment data. These data appear below in Table 2.

Table 2.   Overall effect sizes for students participating in TATA

The name of the items	N	M	SD	p	d
Pre: Class programme alone	10	7.7	2.45		
Post: Class programme and TATA	10	11.6	2.12	<0.01	1.70
The sounds of the letters					
Pre: Class programme alone	10	2.6	2.59		
Post: Class programme and TATA	10	14.9	0.32	<0.01	6.67
The shapes of the letters					
Pre: Class programme alone	10	5.7	5.03		
Post: Class programme and TATA	10	14.7	0.48	<0.01	2.52

Note: N = number of participants; M = Mean of items; SD = Standard Deviation; p = measure of significance; d = the effect size

While effect size criteria have not been developed for students in Māori medium education, according to Morgan, Gliner and Harmon's (2006) criteria, gains from pre to post assessments are of statistical significance and also much larger than typical. When these effect sizes are averaged, there is an overall effect size of 3.63 after approximately 10 weeks of the programme.

Teacher's perspective

According to Riria, TATA

> assists with solid learning for the children's progression to reading and writing. The building of vocabulary assists with their ability to use and understand the language in oral, writing and reading situations.

Riria believed that the TATA activities provided a stronger language foundation for writing and reading. She explained these specific benefits.

> Those children who received TATA as Year 1 last year are now independent writers and have progressed into reading. Four are now receiving instruction at KPa [developing fluency level]. One is at KKe and two are at KKa [developing reading level], including the Year 2 student and three are reading at KHi [emergent reading level], comprehension is apparent at independent levels.

Riria also believed that TATA activities had focused and maintained students' attention on learning.

> All children responded positively to the programme and displayed a keenness to attend. The boys became competitive and showed curiosity as to how others were achieving and endeavoured to do better than their peers. The variety of activities that are incorporated in the set days of TATA activities [from the TATA manual] kept the children's focus and maintained their attention span.

Furthermore, she explained how TATA had fitted in and complemented her other classroom routines.

> Sessions were moulded to suit our classroom routines and class set up, that is the withdrawal room is set up similar to a small classroom, to make it a cosy and inviting learning environment.

Finally Riria explained how TATA had benefited her Year 2 student with specific learning needs.

> The Year 2 student has since had an operation and her attendance has improved along with her learning. The student receives one to one teaching for 20 minutes daily and her overall confidence is now the area to encourage. She has the tools to promote learning and is being encouraged to use what she has gained in TATA to progress further and catch up to peers.

Just as the new entrant students had benefited from participating in TATA, this student, whose two years at school had been marred by illness and absences, had also benefited.

Conclusion

From a socio-cultural view of learning, the tutor provided feedback that was responsive to the student's current stage of development and that was positive and respectful and not overpowering or controlling. Such a position assumes that for the individual learner

everything is perceived, mediated and re-contextualised by what is socially, culturally and personally salient for him or her as an individual. Students are seen as active agents in their own learning, while tutors can act to mediate learning through guiding participation in new learning activities within the zone of proximal development.

While the authors acknowledge that student numbers in this study are small and that these data require careful consideration, they are also important given the paucity of Māori language assessment evidence, statistical or otherwise, being used and reported from Māori medium junior classroom settings. Results for these students provide compelling evidence of the effectiveness of creating responsive, social contexts for learning where less knowledgeable learners can interact with those who are more competent. In a supportive joint enterprise such as this, learners are able to develop skills and achieve greater understanding in a relatively short period of time. As shown by the student data in this paper, this can be useful to add value or to catch up missed learning through clearly determined and interactive support opportunities that are responsive to the learner. The daily TATA sessions between the students and tutor in this study provided opportunities for all of these contexts to take place and have resulted in large positive gains in learning for these students. Integral to TATA is the promotion of productive relationships between tutors and learners, where students are able to initiate and engage in active learning interactions.

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[i] Kura Kaupapa Māori schools have been developed and determined by Māori. Learning is through the medium of the Māori language.

[ii] Effect sizes were calculated using the effect size calculator downloaded from http://www.cemcentre.org/evidence-based-education/effect-size-calculator