Hakas, Hangis, And Kiwis: Māori[1] Lexical Influence On New Zealand English[2]

Donella Bellett
University Of Otago

Introduction

The extent to which speakers of New Zealand English are familiar with Māori lexicon provides us with an indication of the state of the Māori language today. The present precarious position that te reo Māori finds itself in is a consequence of both past and present attitudes towards it. Present day attitudes, however, are also crucial in determining the future of te reo[3] Māori. It is with the aim of uncovering these attitudes that I present this research into the knowledge and use of Māori lexicon in New Zealand English.

In the past, te reo Māori has followed a similar pattern to that of many indigenous languages being overwhelmed by an imperial, colonising language (Bell 1991: 67-70). The fact that the Māori language has survived at all, given the suppression and devaluation the language has received, is in itself surprising. While the language has survived, the number of native speakers is low. Today, New Zealand is one of the most monolingual countries in the world. For 95% of New Zealanders English is their first language, and for 90% of New Zealanders English is their only language (Bell and Holmes, 1991:153). In 1979 Benton estimated the number of Māori speakers to be approximately 70,000. 70,000 speakers represents less than 20% of the Māori population and less than 3% of New Zealand as a whole. Estimates of the number of Māori speakers today range between 30,000 and 50,000 (Benton, 1991:187).

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[1] Macrons are used throughout the article to denote the vowel length of words of Māori origin.

[3] A gloss for this Māori term and all other Māori terms used in the text can be found in Appendix 1. Appendix 1 contains glosses for all the terms contained in the text and terms from the questionnaire used in the present study.

With such a limited number of speakers, the future of the Māori language is clearly in jeopardy. An important push for language survival, however, is coming from Māori people themselves with the establishment of kōhanga reo and bilingual schools. Also important is the establishment of kura kaupapa Māori schools in continuing the monolingual Māori teaching provided within kōhanga reo. These educational initiatives coincide with an increase in both the status and esteem of the Māori language and culture as New Zealand attempts to move closer to a bicultural society.

Bell and Holmes propose that although Māori may eventually be lost as an everyday tongue, it may yet survive as the language of formality within Māori culture (Bell and Holmes 1991:153). Whether this is an accurate assessment or not remains to be seen. An alternative means for the survival of te reo Māori is within New Zealand English. Deverson (1984:5) states that the Māori language has impacted on New Zealand English in two main ways, through journalism and through literature. Within journalism the Māori language provides an appropriate means whereby one can observe and discuss things Māori. The use of Māori words within New Zealand literature is important in that Māori authors are able to incorporate Māori vocabulary naturally into their English language work. This allows Māori authors to actively donate words to New Zealand English. Notable authors to do this include Witi Ihimaera, Patricia Grace, Keri Hulme and Hone Tuwhare.

As is exemplified by the title of this article, a number of Māori words have been borrowed into New Zealand English, and indeed are treated as such[4]. Many New Zealand English speakers, it would seem, are familiar with a wide range of Māori lexicon, not only common borrowings (such as hangi, haka or kiwi) but also lexicon that reflects a much deeper understanding and acceptance of Māori society. I would argue then, that borrowings from te reo Māori evident within New Zealand English, form a continuum, personal to each speaker. The treatment of borrowings and the motivation behind their use, differs at either end of the continuum. For example the use of the term kūmara by many speakers of New Zealand English will not be a conscious use of te reo Māori, and, as a consequence, it will often be treated as a New Zealand English word. Alternatively, the use of such a word as rangatiratanga may have an entirely different motivation, it's use being a conscious choice. The term 'borrowing' shall be used in this article to refer to all words of Māori origin found within New Zealand English. As Māori words become an increasingly integral aspect of New Zealand English and New Zealanders become familiar with the basics

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[4] For example, the pluralisation of the three words in the title 'hakas, hangis and kiwis' is not uncommon. Within te reo Māori, these three words would not be pluralised in this manner.

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of te reo Māori, the healthier the state of the language becomes. Positive attitudes towards Māori by speakers of New Zealand English will not, in itself, ensure the survival of te reo, but it is a beginning.

The vocabulary that has been borrowed into New Zealand English can be placed into a number of categories. Hirsh (1989:7) describes the presence of borrowings in New Zealand English as taking two separate forms, active borrowings and passive borrowings. New Zealander's active vocabularies contain the more commonly known words. Words describing the native flora and fauna of New Zealand (for example, kiwi, tui, tōtara) are widely understood; in fact many have no alternative. Other common borrowings are placenames. Recently there has been renewed preference for the use of original Māori placenames, as opposed to the placenames used by Pākehā colonists. An example of this is the case of Mount Taranaki / Egmont, an initiative which has been supported by both Broadcasting and New Zealand Post. Passive vocabularies, on the other hand, consist of words that may be read and understood but are not often actively used. Examples of passive vocabulary include words referring to Māori society or political structures (for example wahine, rangatira). Hirsh's terminology is useful in understanding the proposed continuum, with words at one end of the continuum (for example kūmara) being part of an active vocabulary, and at the other (for example rangatiratanga) being part of a passive vocabulary[5]. For the purposes of analysis, Hirsh's terminology will be adopted in this article.

The fact that New Zealand English has borrowed a number of Māori words is hardly surprising. In fact loanwords within the English language as a whole are not new. The presence of new borrowings within New Zealand English indicates a healthy and vibrant language. From the first European contact with New Zealand, words have been adopted from te reo Māori to account for and document new experiences with no European equivalent. For example such words as kūmara, moko and tapu.

The manner in which Māori loanwords in New Zealand English should be treated is another matter of contention. The standard method used by past authors has been to put Māori borrowings into italics. Some commentators have argued, however, that this no longer remains appropriate. King (Deverson 1984:7) argues that Māori words 'are becoming a part of New Zealand English and should not be italicised as exotic or foreign'. The extent to which italicising is or is not done provides

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[5] The continuum model suggests that many words would, however, fall between these two extremes. This was apparent in a number of cases. Whether a word was simply known or actively used would often depend on the situation in which the speaker found themselves, who they were talking to and what they were talking about. For the purposes of analysis however, subjects were urged to make an arbitrary decision. This is dealt with in the discussion.

an indication of the amount of assimilation and borrowing of te reo Māori into New Zealand English[6].

The use of Māori loanwords within English also poses many linguistic problems. Good sense and a historical perspective tells us that for a word to be properly borrowed it must undergo change in order to conform to the differing rules of the new language. Words such as kit (from kete) and matagouri (from tūmatakuru) exemplify the almost complete transformation of Māori words when truly assimilated into English (Deverson 1992). The majority of Māori loan words, however, have retained their original form and instead conform to English vowel and stress patterns. An example of this is the pronunciation of the placename Oamaru as ʔˈʌuməruʔ instead of ʔoːamaruʔ. Deverson (1992) argues that giving a written form to Māori, despite its straightforward phonemic orthography, may have actually encouraged English speakers to equate written Māori with spoken English equivalents, for example, the pronunciation of Wanganui as Wa / nga / nui = <u>wa</u>nt / lo<u>nger</u> / <u>new</u>, producing the New Zealand English pronunciation ʔwɒŋgəˈnjuiʔ rather than ʔwaŋaˈnuiʔ

Today, perhaps more than ever, it is seen as appropriate for reasons of cultural sensitivity and political correctness to attempt correct pronunciation and to resist as much as is possible the imposition of English rules on Māori words. Although assimilation of words is a natural linguistic process, the resurgence of Māoritanga and the official move towards biculturalism makes such assimilation inappropriate.

Certain conventions have become widely accepted by many Pākehā speakers. They include the zero-pluralisation of Māori nouns (both the morphological device and the letter 's' not being a part of the Māori language) and an increasing knowledge of pronunciation (notably the standard Māori pronunciation of the Māori 'wh' as the English 'f'). Whilst the pronunciation of a second language is arguably impossible to do free from accent or mistake, the Māori language requires relatively few foreign sounds for the Pākehā speaker. In the light of excellent media examples (including Television New Zealand and Radio New Zealand) most New Zealanders should, at the very least, be able to attempt correct pronunciation. The only question that remains is whether correct pronunciation of Māori words is appropriate. This decision must, in the end, be left to the moral or linguistic reasoning of the individual speaker.

Background to the present study
In 1946 Andersen wrote 'we are so familiar with some of the [Māori] words

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[6] Unfortunately no quantitative survey into the amount of italicising or non-italicising has been carried out to date.

that ... one begins to wonder if we have a different language here in New Zealand' (1946:161). Andersen's article provides three lists of words he considers to be assimilated into New Zealand English. The first is a list of words included in the Oxford Dictionary (a total of 51, 44 of which refer to flora or fauna). The second is the 1933 supplement to the Oxford Dictionary and the third consists of 173 words which, in Andersen's opinion, are sufficiently well known to be fully considered a part of the New Zealand English vocabulary. Of these 173 words only fifty refer to things other than flora or fauna.

43 years later, another list of words was published. Hirsh (1989: 8-11) published a list under the title 'Māori Borrowings into New Zealand English'. Comprising 121 words and 20 phrases, the list differs from Andersen's markedly, consisting mainly of words referring specifically to aspects of Māori culture.

The present investigation was designed to fill the gap between these two published lists. With over forty years between them, the differences in content is hardly surprising, Andersen's article representing earlier borrowings into New Zealand English, and Hirsh's, more recent ones. Older borrowings appear, on the whole, to reflect lexicon taken by the Pākehā for specific purposes, that is, terms for flora and fauna and words needed to get by in their new environment. In contrast to this, within the context of the current Māori renaissance, recent borrowings differ markedly. These borrowings reflect knowledge about Māori society, referring to peculiarly Māori concepts. Although it could be argued that no Pākehā actually needs to know the word for a Māori meeting place, language nest, welcome or elder, a large number of Pākehā are indeed familiar with the words marae, kōhanga reo, pōwhiri and kaumātua. This seems to indicate an increasing awareness, and perhaps even acceptance, of things Māori. My questionnaire was constructed, therefore, to incorporate examples of both old and new borrowings, in order to ascertain which words are known and used by speakers of New Zealand English today.

Pilot study

The present research is a continuation of a pilot study completed in 1992 (Bellett 1992) as part of a 300-level Sociolinguistics paper at the University of Otago. A summary of this research is presented below.

The research conducted in 1992 involved the same aim and method as the present study. However, the word list was smaller (71 words) and the number of respondents was less (91). The words used in Bellett (1992) are also largely duplicated in the present word list[7]. As in the present study, data

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[7] Kiore or rat/mouse (Ryan 1989: 22), being the only word not carried over. This was due to a lack of recognition of this word by the majority of respondents.

was collected from both Invercargill and Dunedin. However, in Bellett's 1992 study, subjects were able to be split quite clearly into two groups: those who acknowledged Invercargill as both birthplace and present home; and those who identified as coming from places other than Invercargill. The data was analysed accordingly. The second group included a large number of University students and workers from throughout the country as well as a number born overseas. Although this group could not be seen as a representative sample of the rest of the country, it was hoped they would provide an interesting contrast to the 'Invercargill' group.

The main findings of my pilot study are summarised below:

1) The average number of Māori words correctly identified was 34.03, and the average number of words used was 22.99.
2) Women ($p < 0.05$) knew a larger number of words than did men.
3) Knowledge and use of Māori vocabulary was highest amongst 20 to 29 year olds, followed by 30 to 39 and then 40 to 49 year olds.
4) Subjects from places other than Invercargill, although scoring the same number of words correct as subjects from Invercargill, were significantly more likely to use the words that they knew. This result probably reflected the fact that this group consisted mainly of University students.

The information collected for the present study was in the hope of supporting these findings. The word list has been extended to 100, and a larger number of subjects surveyed (143).

The present study
The present research attempts to determine and quantify those Māori words which have been borrowed by speakers of New Zealand English. 143 subjects were interviewed to ascertain which Māori words they knew (to be an indication of their passive vocabularies) and which Māori words they used (as an indication of their active vocabularies) from a list of 100 selected Māori words. The words chosen include elements from two previously published lists of words assumed to be borrowed into New Zealand English (Andersen 1946 and Hirsh 1989). Subsequent to data collection subjects' responses were analysed according to a number of variables (gender, age, ethnicity and class) and each word was analysed to determine how often it was known and used.

This investigation was based on a number of hypotheses.
- The amount of words a subject knows and uses will be dependent on that subject's gender, age, ethnicity and class.
- Subjects who identify as Māori would both know and use more Māori lexicon than other subjects.

- The average subject will know between forty and fifty Māori words (Deverson 1984:4).
- Māori loanwords in New Zealand English will not consist simply of flora and fauna (as exemplified by Andersen's aforementioned list [1946]) but also of a number of more recent borrowings (as in Hirsh's list [1989]).
- The most well known words will reflect older borrowings, that is, words to describe flora and fauna.

Method

Data was collected from 143 subjects in Dunedin and Invercargill on a networking basis (Holmes, Bell and Boyce 1991: 23-25). These 143 subjects include participants from two schools (11 to 13 year old pupils from an intermediate school and fourteen and fifteen year olds from a secondary school) and a women's golf club.

Subjects were interviewed using a simple questionnaire. Subjects were presented with a written list of words (refer Appendix 1) in random order. For each word subjects were asked three questions: did they know the correct meaning of the word; if so, could they define it; and did they use this word in everyday, English, speech? The words were presented to the subjects in written form only, in a 'one on one' interview situation.

The questionnaire consisted a total of 100 words. The initial impetus for this study came from being a second language learner of Māori myself. As such, it was hard to judge which words would be commonly known by speakers of New Zealand English. Each word in the questionnaire was chosen for its common appearance within the media or for its likely comprehensibility within New Zealand English, such as hāngi, kiwi and Pākehā. Other words included are not so commonly used in New Zealand English. It is anticipated that the inclusion of such terms (for example tamariki or pounamu) may help to investigate the passive vocabularies of New Zealand English speakers. Also included were words that I felt should have been known, for example terms from the Treaty of Waitangi and mythological beings.

Because this research is an attempt to identify commonly known words, spellings and definitions that were selected for each word were chosen to reflect standardised versions (as evidenced by their appearance and concise definitions within Ryan [1989][8]). Within the questionnaire, macrons were used in preference to double vowels to avoid confusion (the doubling of vowels not being common practice within the media).

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[8] Readers should be aware that more extensive definitions can be found in Williams (1971).

To aid statistical analysis, words were classified into the following categories (note that some words fit into multiple categories):

Concepts peculiar to Māori society:
Tangata whenua, marae, manuhiri, tapu, rangatira, hāngi, kōhanga reo, tūrangawaewae, noa, tohunga, hongi, haka, hui, mana, te reo, pōwhiri, rūnanga, aroha, utu, taonga, koha, tangi, karanga, taniwha

Flora / fauna:
kina, mānuka, kūmara, moa, kauri, tūī, pūhā, huhu, pāua, pūkeko, kererū, kurī, kiwi

Other nouns:
kete, pounamu, hīkoi, piupiu, taiaha, mere, poi, waiata, Pākehā, moana, puku, tūtae, kai, waka, Te Karere, wai, rā, Māori, Aotearoa, moko, whare, mimi

Relationships / ordering of society:
tamariki, tangata, whānau, wahine, tohunga, kaumātua, tāne, mokopuna, rangatira, hapū, kuia, iwi

Phrases:
tihe mauri ora, haere rā, e tū, tēnā koe, e noho rā, kei te pēhea koe, kia ora, ka pai, ka kite anō, haere mai

Verbs:
hīkoi, patu, turituri, whakarongo, e tū, waiata, titiro, e noho, kōrero, taihoa, mimi

Religion:
Ringatū, atua, Rātana, Ariki, Tapu, Te Rongopai, Noa

Mythology:
Hine-nui-te-Pō, Papatūānuku, Ranginui, Tāne, Māui

Political terms:
tūrangawaewae, rangatiratanga, kāwanatanga, Kīngitanga, rūnanga

Responses:
āe, kāore

At the conclusion of the questionnaire subjects were asked for their age, the ethnicity they wished to identify with, their highest level of schooling reached and their present occupation[9]. For subjects still at school, parents'

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[9] Appendix 2 gives a breakdown of the level of schooling reached and the occupations of the subjects.

occupation(s) were recorded. For retired subjects, previous occupation was recorded.

The sample of 143 subjects were categorised according to four variables: gender; age; ethnicity; class. Thus, the following four Tables illustrate the characteristics of the sample. Gender, age[10] and ethnicity (Tables 1, 2 and 3, respectively) were self-reported by the subjects.

The self-reporting of ethnicity elicited seven categories. This may be seen in Table 3. Subjects grouped under the category 'British Isles' identified as coming from England, Wales, Scotland or Ireland. The 'Other' category consists of one subject who identified as Chinese.

For each subject Class was determined (Table 4). Before analysis occupations were classified using the Irving-Elley (1977) and the Elley-Irving (1985) indices. This resulted in a numerical value of 1 (highest) to 6 (lowest) being assigned to each subject. Subjects who had identified as unemployed or as home makers were assigned a score of 4, and tertiary students (in light of their expected occupations and earning potential) were assigned a 2. A Class rating was then computed for each subject by adding occupation to education. The Irving-Elley and Elley-Irving ratings were reversed and collapsed during analysis from a six point scale to a three point scale to be in line with my education ratings. This allowed a rating of 1 (lowest) to 3 (highest) for occupation and a 1 (primary), a 2 (secondary), or a three (tertiary) for education. These two figures were summed for each

Gender:	Female	81	(56.64%)
	Male	60	(41.96%)
			(2 missing cases)

Table 1: Composition of the sample by gender

Age:	Group 1 (10-19 years)	43	(30.07%)
	Group 2 (20-29 years)	28	(19.58%)
	Group 3 (30-39 years)	16	(11.19%)
	Group 4 (40-49 years)	22	(15.38%)
	Group 5 (50-59 years)	13	(9.09%)
	Group 6 (60 - 69 years)	12	(8.39%)
	Group 7 (70 - 79 years)	7	(4.90%)
			(2 missing cases)

Table 2: Composition of the sample by age group

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[10] The distribution of age and gender relative to each other can be found in Appendix 3.

Ethnicity:	Pākehā	43	(30.07%)
	European	33	(23.08%)
	New Zealander	34	(23.78%)
	Māori	7	(4.90%)
	Māori / Pākehā	8	(5.59%)
	Kiwi	8	(5.59%)
	British Isles	7	(4.9%)
	Other	1	(0.70%)
	2 missing cases)		

Table 3: Composition of the sample by ethnicity

Class:	Group 2	2	(1.4%)
	Group 3	14	(9.79%)
	Group 4	74	(51.75%)
	Group 5	11	(7.69%)
	Group 6	33	(23.08%)
		(9 missing cases)	

Table 4: Composition of the sample by class

subject resulting in a scale of 2 to 6 for class. Statistical analysis was performed using the SPSS analysis package on a Macintosh.

Results

Figure 1 shows the average number of words known and used by the subject sample. Error-bars indicate the standard deviation for the sample. It is important to note that the large standard deviations reflect the heterogenous nature of the sample, as the sample is composed of a variety of ages, ethnicities and classes.

Analyses of variance (ANOVAs) were performed for the variables of Gender, Age, Ethnicity and Class.

A univariate ANOVA was performed for the independent variable gender. No significant differences for gender were revealed. Reference to Table 5 however, shows that the standard deviations are large. It is likely that the lack of significant difference is a function of the heterogenous population, as gender is composed of a variety of different ages, ethnicities and classes.

The independent variable age was examined with a univariate ANOVA. Results showed a significant difference between age groups for the number of words correct $(F = 3.9477, p < 0.01)$. No significant differences were found between age groups for the number of words used.

**AVERAGE NUMBER OF WORDS CORRECT
AND USED, STANDARD DEVIATIONS,
TOTAL SAMPLE**

Figure 1

**AVERAGE NUMBER OF WORDS CORRECT AND
USED, BY AGE GROUP**
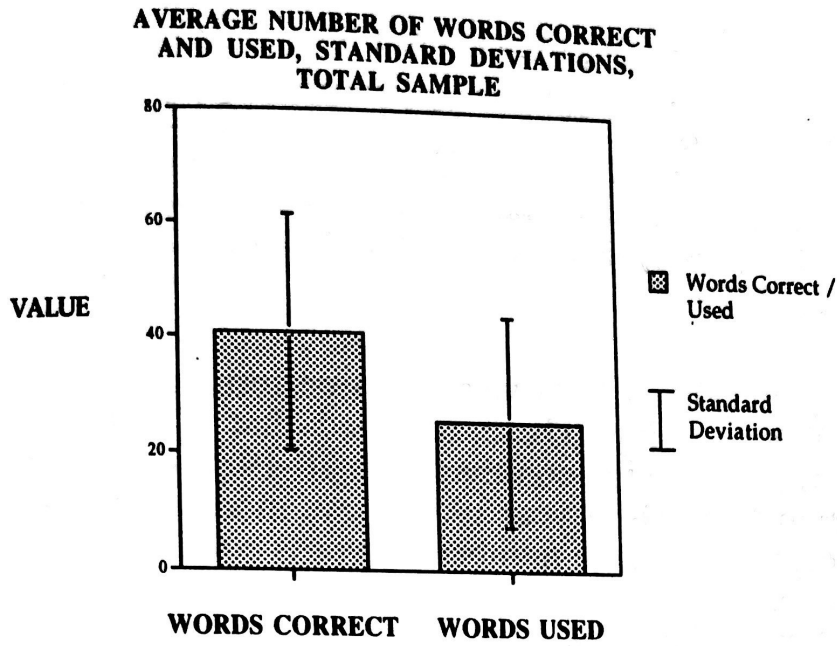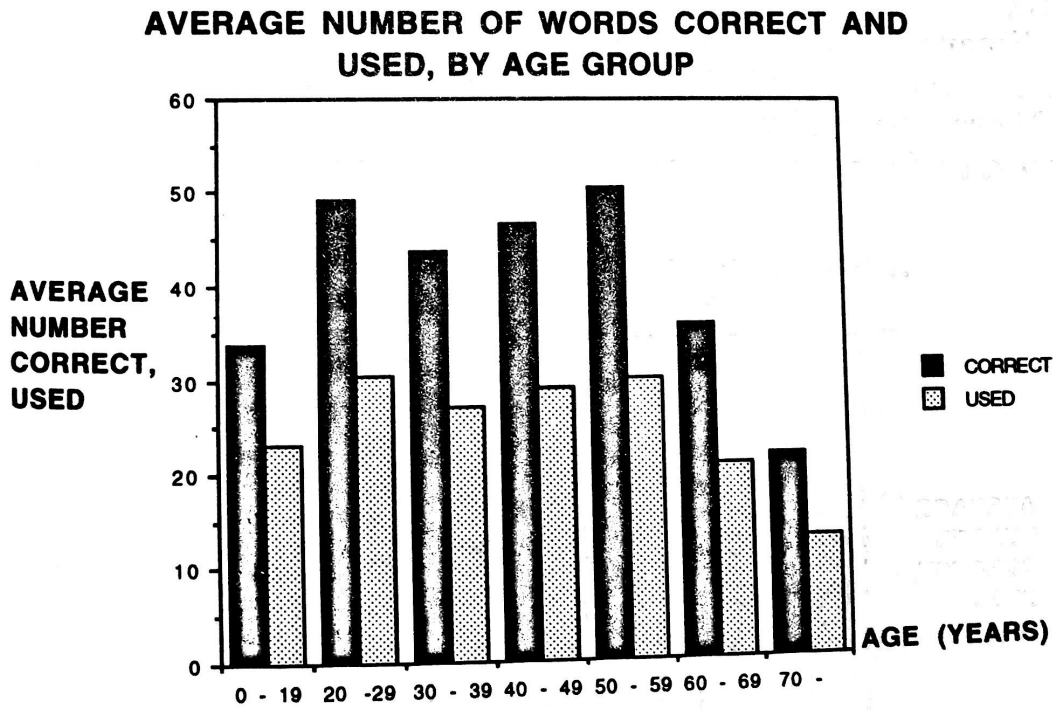
Figure 2

	Words Correct	Standard Deviation	Words Used	Standard Deviation
Females	41.56	18.23	26.54	6.89
Males	40.30	23.70	24.95	9.84

Table 5: Number of words correct and used, standard deviations, by gender

Post-hoc analyses (Tukey test) were also performed to determine where significant differences lay. These revealed that 20-29 year olds knew significantly more Māori lexicon than both 10-19 year olds and 70-79 year olds; in addition that 50-59 year olds knew more than 70-79 year olds. Figure 2 displays the average number of words correct and words used, as a function of age.

In addition to the statistically significant differences reported above, important trends for both words correct and words used can be discerned from Figure 2. In particular, both words correct and words used show a marked drop from 50-59 years to 70-79 years. Furthermore, 10-19 year olds also appear to show less knowledge and less use of Māori terms than those aged 20-59 years. The implications of this will be dealt with in the discussion.

Significant differences between classes for the number of words correct ($F = 3.0803, p < 0.01$) and for the number of words used ($F = 3.8547$ $p < 0.01$) were found by a univariate ANOVA. Post-hoc analyses were also performed to determine where significant differences lay. Both the Scheffe

AVERAGE NUMBER OF WORDS CORRECT AND USED, BY CLASS GROUP

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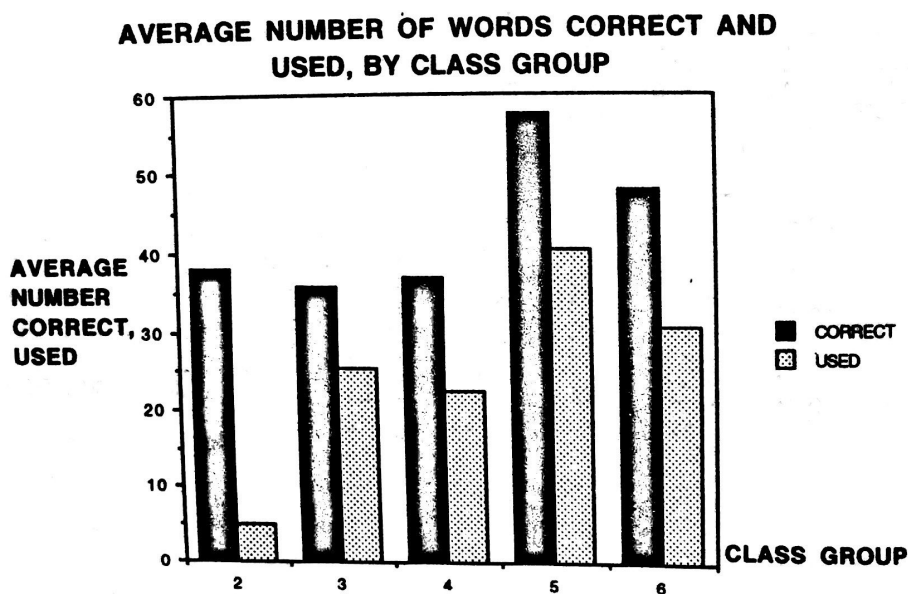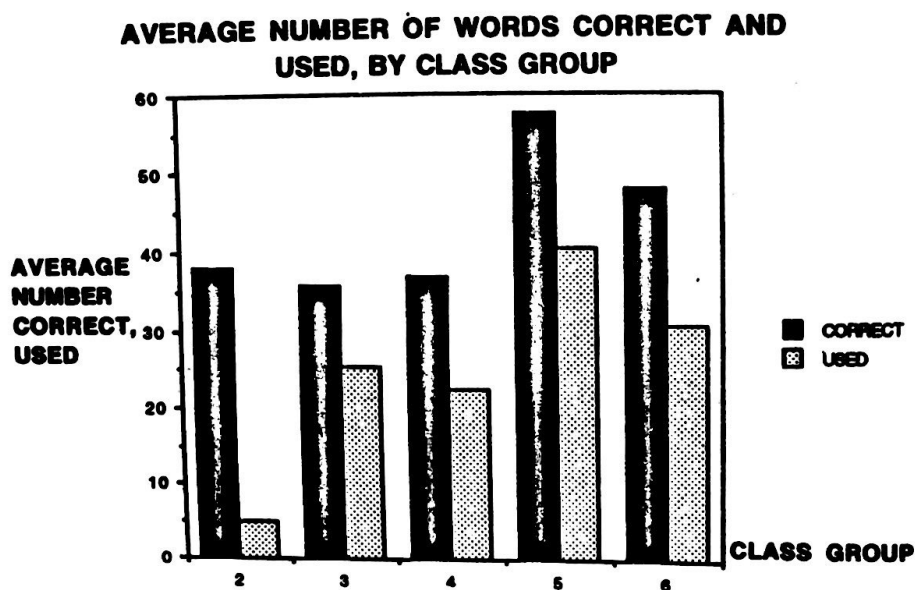

AVERAGE NUMBER OF WORDS CORRECT AND USED, BY CLASS GROUP

Figure 3

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and Tukey tests showed a significant difference between class groups 5 and 4 for number of words correct and used. Average number of words correct and words used are graphed as a function of class in Figure 3.

An interesting trend is also evident in Figure 3. Class Groups 5 and 6 appear to both know and use more Māori terms than lower class groups. The implications of this trend will be dealt with in the discussion.

A univariate ANOVA was performed for the independent variable ethnicity. Results showed a significant difference between ethnicities for the number of words correct ($F = 2.6162$, $p < 0.05$) and for the number of words used ($F = 2.3530$, $p < 0.05$). Post-hoc analyses (Tukey test) were also performed to determine where significant differences lay. This analysis revealed a significant difference between people identifying as Māori/Pākehā and those identifying as Kiwi ($p < 0.05$). Average number of words correct and words used are graphed as a function of ethnicity in Figure 4.

An interesting finding is evident in Figure 4. Apart from the 'other' group (made up of only one subject), subjects identifying as Kiwis knew and used less Māori words than any other ethnic group. The highest use and knowledge of words was found amongst those who identified as Māori in some way (either as Māori or Māori/Pākehā), followed by those who identified as Pākehā.
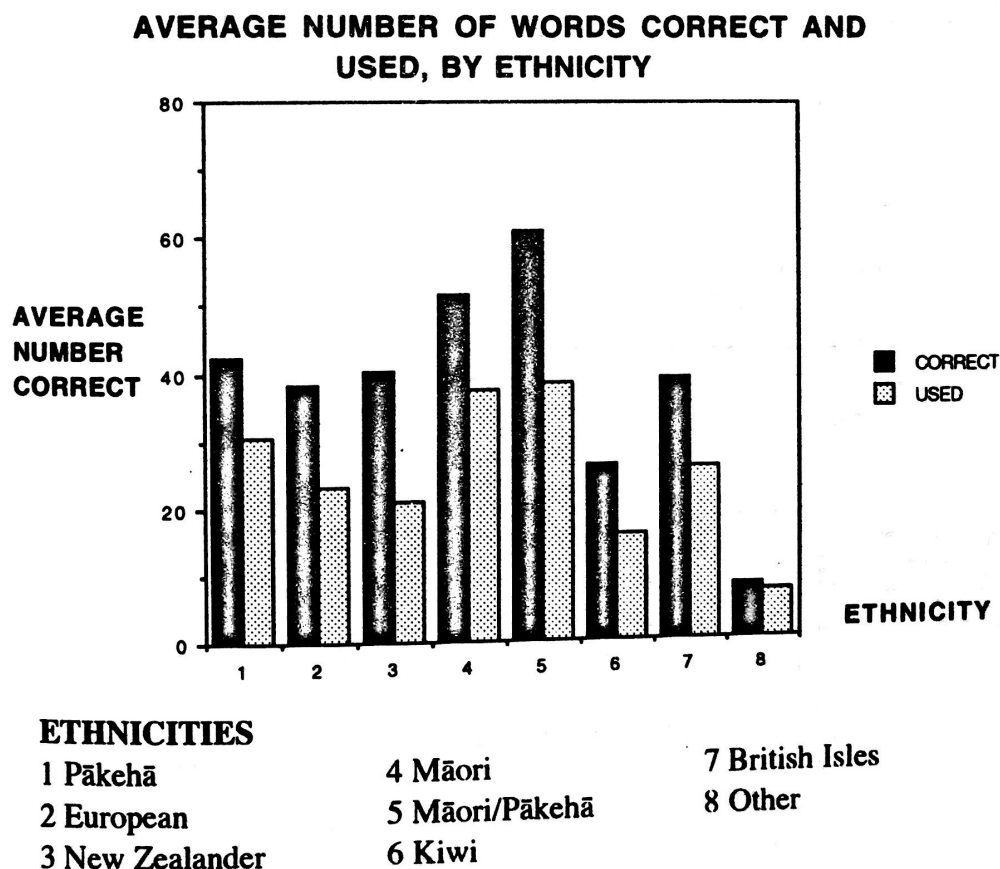
AVERAGE NUMBER OF WORDS CORRECT AND USED, BY ETHNICITY

ETHNICITIES

1 Pākehā	4 Māori	7 British Isles
2 European	5 Māori/Pākehā	8 Other
3 New Zealander	6 Kiwi	

Figure 4

In order to test for significant differences between those who identified as Māori or Māori/Pākehā and the rest of the sample, ethnicities were recombined in the following way: Groups 1, 2, 3, 6, 7, 8 (Pākehā, European, New Zealander, Kiwi, British and Other) were recoded into Ethnic Group 1 and Groups 4 and 5 (Māori and Māori / Pākehā) were recoded into Ethnic Group 2. This resulted in the creation of two groups: one consisting of predominantly Pākehā and/or European subjects and the other consisting of Māori and Māori /Pākehā subjects. A univariate ANOVA showed that ethnic group 2 (the Māori group) both knew ($F = 4.236$, p< 0.01) and used ($F = 4,197$, $p < 0.01$) significantly more Māori lexicon than the Pākehā group. This is illustrated in Figure 5.

Descriptive analysis was also performed on each word used in the survey. The number of subjects who knew a particular word, and the number of subjects who used a particular word were calculated. These results have been summarised on the six graphs in Appendices 3 and 4. The graphs illustrate which words were most and least well known; and which words were most often and least often used. The placement of individual words will be dealt with in the discussion.

A Factor Analysis was performed on the data to determine whether further trends were present. Three clusters of interest could be discerned from the results. Cluster 1 (words loading highly on Factor 1); Cluster 2 (words loading highly on Factor 2); and Cluster 3 (words with a low loading on both Factors 1 and 2). Correlations of words in Cluster 1 with demographic variables produced a negative correlation between Age Group and the following variables: e tū; e noho; kāore; e noho rā; whakarongo; ka kite anō ($p < 0.05$); kei te pēhea koe ($p < 0.01$). It is proposed, therefore,

AVERAGE NUMBER OF WORDS CORRECT AND USED, BY ETHNIC GROUP
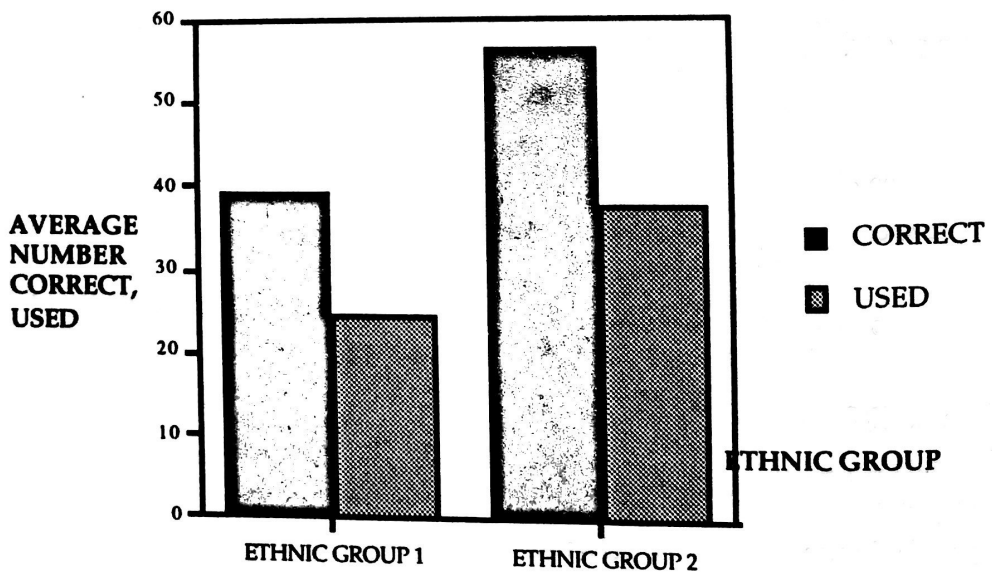

Figure 5

that Cluster 1 may represent lexicon more likely to be known and used by young people.

Results of the factor analysis are too complex to present here in any detail and should be treated with caution. Because such a large amount of words (100) were subjected to a factor analysis, it is possible that clusters of words appeared as a consequence of chance. Thus, clusters may not represent underlying commonality.

Discussion

When the data was originally collected, it was grouped in two major ways. Subjects were interviewed to ascertain which words they knew and which words they used from the questionnaire.

For each word, the subject was asked to define the meaning (if they felt able to do so), and their definition was then either accepted or not. This allowed me to obtain a relatively objective 'number of words correct' per person: objective in the sense that although the criteria were of my own choice, they remained static across all subjects. However, a large variation in definitions was allowed. I sought not full and exhaustive definition but rather an adequate understanding of the concept or thing involved. For example, 'marae' was more often than not defined as a meeting house or place rather than the strictly correct 'enclosed space in front of a house, courtyard, village common' (Williams 1971:180). Both definitions were accepted, as the former definition, in my opinion, conveyed an acceptable understanding of the purpose and function of a marae. Other examples of this include the all too common (and offensive) definition of haka as 'what the All Blacks do' (further inquiry usually brought about a 'Māori war dance'). Definitions of such words as these demonstrate their full entry into New Zealand English, with their Māori meaning becoming obscured by the newer Pākehā meaning. Other words were more straightforward in their possible definitions, for example 'to sing' or 'song' were the only definitions accepted for waiata, whilst other words required a rather specialist knowledge to be displayed. For example it was not enough to recognise Māui as a (demi)god, subjects had also to demonstrate some actual knowledge as to who Māui was or what it was that he had done.

On the other hand, 'words used' is a subjective score, based on the individual subject's own criteria. Guidance was given to the subject as to how to fill in this section; however, the subjects were left to self report their answers at the completion of the questionnaire and were no doubt influenced by the content of the questionnaire itself. Subjects were told that to tick a word in the 'use' column they must believe that they actively use that word whilst speaking English, that is that they have used the word before and are likely to do so again. This included the use of situational words, words that one mightn't come across everyday, but when they did, would they be used? For example, would the subject say 'hongi' or 'nose

press', 'tangi' or 'Māori funeral'? Although it was sometimes difficult for subjects to categorise each word as either used or not, it was emphasised that it was important that they did so. Care was taken to distinguish between an active and a passive vocabulary, words that were understood but not necessarily used being part of one's passive vocabulary, as opposed to words that are actively used. Deverson (1984:10) argued for a large well defined Māori vocabulary existing within New Zealand English that was more likely to be part of people's passive rather than active vocabularies. My subsequent distinction between words the subject knew and those that were used is intended to investigate this distinction, and indeed consistently larger numbers of words were correctly defined than those identified as used.

The number of words correct across the total sample in the present study (40.91) represents a significant increase from Bellett, 1992 (where the average number of words correct was 34.03). The present result supports Deverson's assessment that between 40 and 50 Māori words would be commonly understood by speakers of New Zealand English (1984:4). The increase in the number of words known from the 1992 study to the present is easily explained by the larger number of words in this year's questionnaire, including a larger number of flora/fauna words. When examining the figure of 40.91 words correct, it is important to note the large standard deviation that accompanies it (20.54). This figure tells us that while the average number of words correct was almost 41, individual subjects were scoring anything between 20 and 61 words correct. This reflects the fact that the sample as a whole comprised many different types of people. To account for this, the sample was categorised according to four variables: gender, age, class and ethnicity. Further analysis was then performed along these lines.

Gender was analysed by an ANOVA with no significant differences between genders being revealed for either words known or used. Again, it is likely that the lack of significant difference is due to the large standard deviations involved. It is also interesting to note that the lack of significant difference is in direct contrast to Bellett's (1992) results where a univariate ANOVA showed that women knew more Māori words than did men ($p < 0.05$). The difference in findings can most likely be attributed to a sampling error, either in the 1992 or the present study. As the present study is more extensive than Bellett (1992), it is assumed that the present findings are the more accurate.

Differences of knowledge between age groups, however, were evident. An ANOVA showed a significant difference between the number of words that different age groups knew. The highest number of words correct was scored by the 50 - 59 year old group, followed by the 20 - 29's, and then the 40 - 49's, and the 30 - 39's. This differs from Bellett's (1992) results where the highest amount of words was known by 20 - 29 year olds with knowledge decreasing from this age. However, in the present study, 50

- 59 year olds knew only slightly more Māori lexicon than those aged 20 - 29 years old with the difference between these two age groups being non-significant. Thus, a parallel is evident between the present study and Bellett (1992).

As mentioned in the results section, an interesting trend is evident in Figure 2 (Average number of words known and used by age group). Examination reveals a close approximation to a normal distribution with those aged from 20 to 59 all scoring relatively highly. The two most extreme age groups, 10 to 19 year olds and 70 to 70 year olds show a marked drop-off from the central group, with significantly lower scores. Those aged between 20 and 59 years know a larger number of Māori words than do both younger and older subjects. It is proposed that this finding reflects the level of maturity of the middle age group (20 - 59 years) and the generation to which they belong. This is supported by the fact that those aged 60 and over know and use considerably less Māori words than those aged 20 - 59. It is proposed that differences in education, attitudes and urbanisation are amongst the factors affecting this difference. Younger subjects (aged from 10 to 19) knew less words than those aged 20 - 59, probably as a function of their relatively underdeveloped vocabularies in general.

No significant differences were revealed for the number of words that different age groups used. This is likely to be an artefact of the restricted range possible for the number of words used. The two variables, words that a subject knows and words that a subject uses, are dependent on each other. A subject's active vocabulary (words that that subject will use) is a necessary sub-set of their passive vocabulary (words that they know). Use being dependent on knowledge, it is therefore ultimately restricted by knowledge. It is interesting to note, by reference to Figure 2, that the number of words that different age groups used appears to follow the same overall normal distribution as for number of words correct. Despite the fact that no significant differences were revealed, it is likely that important differences do exist between age groups for the number of words used.

Univariate ANOVAs showed significant differences between classes (as defined here) for both the number of words used and the number of words known. Group 5 scored significantly higher than other groups and is closely followed by group 6. The composition of these two classes are people with at least a secondary education (and possibly also tertiary) and a better than average job (in terms of qualifications, pay and conditions). It would seem that the highest scores then, were obtained by relatively well educated, well-off subjects. This is an interesting result in light of the fact that Māori (whom it would be expected would know and use more Māori words) are traditionally concentrated in the lower classes. Again, this can probably be attributed to sampling error. Many of the subjects in Class Groups 5 and 6 were highly educated university students with positive attitudes towards things Māori. Similarly, several of the Māori subjects,

being students themselves, were classified in the higher class groups.

The ethnicity that a subject chose to identify with also produced significant results. Subjects of differing ethnicities knew and used significantly different amounts of Māori words. The highest score for both words used and words correct was achieved by the Māori/Pākehā group followed by the Māori group and then the Pākehā group. Thus the highest scoring groups were those that actively identified with things Māori, the Māori/Pākehā and the Māori groups (as actually being Māori), and the Pākehā group (defining themselves in Māori terms).

The fact that the Māori/Pākehā group scored more highly than the Māori group can be explained in a number of ways. Of interest is the probable composition of the Māori/Pākehā group. Given that they chose to identify in this way, it would seem that they had taken a positive step towards identifying with their Māori ancestry. To this end they had probably actively pursued knowledge in Māori lexicon, as opposed to the group who had identified as wholly Māori who may not, therefore, feel the need to prove themselves as much (note that their knowledge is still higher than the rest of the sample). Most importantly, however, it must be remembered that the number of subjects in each of the two groups is low (8 and 7 respectively) and they cannot, therefore, be seen as representative. This result must therefore be treated with caution.

Subjects were recombined into two broad groups: those who identified as Māori in some way (including Māori and Māori/Pākehā subjects) and those who did not. Once again significant differences were found between the two groups. The results this time, however, presented a higher probability ($p < 0.01$, compared to the previous $p < 0.05$). This tentatively supports the hypothesis that subjects identifying as Māori would know and use more Māori lexicon than non-Māori subjects. As the number of subjects identifying as Māori or Māori/Pākehā is small, however, this result must also be treated with caution.

The lowest score was achieved by the group who identified as Kiwi (disregarding the Other group, comprised of only one person). Although Kiwi is often claimed to be an all inclusive term (for both Māori and Pākehā) it would seem that those who claim the term are in actual fact very Pākehā (or white) and are not even very interested in their Māori counterparts. This supports the previous findings of Bayard (1991: 30 - 31) who found that the term Kiwi referred to Pākehā only. Those who identified as Pākehā, European, New Zealander and British all scored a similar number of words correct, indicating a similarity in their composition.

It should also be noted that the self-reporting of ethnicity is likely to be subject to experimenter demand. Although subjects were given no prompting as to which ethnicity to identify with, their choice was no doubt influenced by me, the interviewer (a Pākehā female) and by the actual survey itself (dependent on their positive or negative attitude to it).

Analysis was also performed on each individual word. The number

of subjects who knew a particular word, and the number of subjects who used a particular word were calculated. These results have been summarised on the graphs in Appendices 4 and 5. The most consistently well known words were those that I have classified as 'older' borrowings, with nearly all the flora/fauna terms appearing on my first graph (the 'top' 31 words, Appendix 4) as well as other obviously borrowed words such as Māori, Pākehā, haka, hāngi, kiwi and Aotearoa. Among the least well known terms were religious (Ringatū, Te Rongopai) and political ones (especially those from the Treaty of Waitangi, for example rangatiratanga and kawanatanga). These can be found on the third graph in Appendix 4.

Interestingly, both for words known and for words used, no one word was identified correctly, or as used by all subjects. It is likely that this is a product of experimental design as it is unlikely that any person living in contemporary New Zealand is not familiar with such words as kiwi, Māori and Pākehā. Whether subjects truly did not know these words or whether they simply did not wish to admit they did is debatable. The reason such words as Māori, Pākehā and kiwi went unreported is possibly due to individual subjects not wishing to admit to using words labelled as 'Māori' words (that is, within a 'Māori questionnaire'), or not feeling confident enough to attempt a definition of the words. This, it would seem, indicates a trend of slight under representation across all words.

The number of times a word was correctly identified by subjects is presented on three graphs in Appendix 4. The first graph represents words that have been more or less fully borrowed into New Zealand English. They include the majority of the flora/fauna words and a number of words referring to fairly obvious symbols of Māori society (such as marae, hāngi and poi). The following graph comprises 'borderline' words, words that most people with a general awareness of things-Māori will usually at least recognise. The third graph consists of words not known by many, including political and religious terms, knowledge of which indicates a relatively specialised understanding. Older borrowings then, such as vocabulary for flora and fauna, appear to be well embedded in New Zealand English. Newer borrowings, that is words reflecting a greater interest in Māori society and the concepts involved, still seem to be establishing themselves. Such words are not as universally known and are spread throughout the second and third graphs.

Appendix 5 graphically presents the number of times each word in the questionnaire was reported as used. Again, this information is spread across three graphs, showing words most often used, through to those least often used. The trends that were evident in Appendix 4 can also be discerned here. Subjects are most likely to use elements of Māori lexicon that have long been borrowed into New Zealand English, especially terms referring to flora and fauna. Such terms can be found on the first graph in Appendix 5. Also to be found on this graph are such obvious motifs for Māori culture as haka, poi, kia ora, taniwha and tangi. The second graph in

Appendix 5 contains words that require a little more knowledge and confidence to use, as a consequence they are used less often. Examples of these include tangata whenua, kei te pēhea koe and pōwhiri. The final graph in Appendix 5 contains words not often used. Less than 20 subjects reported using each word on this graph. The graph contains a number of elements in common with the final graph in Appendix 4, being words less commonly known and therefore less commonly used.

As discussed earlier, my sample contained subjects from two schools and a golf-club. Whilst testing subjects, differences between the knowledge of the different age groups was immediately apparent. This was most obvious with the school pupils who consistently knew such verbs as 'e tū' and 'e noho', basic commands, verbs, greetings and goodbyes. This is supported by the results of my factor analysis where the most obvious grouping consisted of the majority of these words (e tū, e noho, kāore, e noho rā, whakarongo, ka kite anō, kei te pēhea koe). Significant negative correlations were found between these words and age.

One of the most interesting aspects of this study was the attitudes encountered during testing. The use of an extremely long list of written words intimidated many and lead to a few refusals to take part. In line with this was the unfortunate placing of 'tangata whenua' at the beginning of the list, the length of the phrase and maybe its connotations being off putting to some. Attitudes encountered ranged from outright racism (including refusal to take part, derision, and the invocation of some rather offensive stereotypes) to overwhelming enthusiasm, with many spare questionnaires being requested so that unrecognised words could be learnt.

Further to this, the amount of words reported as used by the subject provide a good indication of the subject's attitude. For example words such as 'Māori' and 'Pākehā' would go unreported by some people, indicating, perhaps, an aversion to being associated with things Māori or self-identification as Pākehā. On the other hand, some would appear to over-report their use of Māori words, either in line with their self image as pro-Māori or possibly from the influence of the survey itself.

Obviously, the potential for future research in this area is huge. The present investigation has been limited to a very specific geographical area with a set list of words and as such, represents only a very small part of the picture. This study has given many strong indications however. The amount of Māori lexicon that a speaker of New Zealand English will know and use is dependent on that speaker's age, ethnicity and class. The gender of a speaker has no effect on either their knowledge or their use. An average speaker will know around about forty Māori words. They will include words to describe New Zealand's flora and fauna; well known borrowings such as kiwi, Pākehā, marae; and an increasing number of more specialised words referring specifically to Māori society such as mana, tapu and whare. These findings support the hypotheses outlined in the introduction to this paper (with the exception of gender having an effect on knowledge or use).

These are important findings in the light of current initiatives to increase the use of te reo Māori. An increasing knowledge and understanding of Māori lexicon within New Zealand English indicates a greater acceptance of Māori issues and values. This knowledge and understanding, however, does not appear to be evenly distributed across all speakers of New Zealand English. Although a basic knowledge of Māori lexicon was demonstrated by the majority of subjects, very few subjects could go beyond this. Knowledge combined with a positive attitude towards te reo Māori was found in a certain type of New Zealand English speaker: those aged between 20 and 59 with a relatively good education and job. With 1995 being the year of the Māori language it is important not to slip into complacency. Continuing positive attitudes amongst speakers of New Zealand English combined with better education can only lead to a greater acknowledgment of te ao Māori and increasing biculturalism in the future.

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Appendix 1
Questionnaire from survey
Glossary added[11]

Correct? / Use?	*Gloss (not on original questionnaire)*
Āe	Yes
Aotearoa	New Zealand; Land of the Long White Cloud; North Island
Ariki	Supreme chief; god
Aroha	Love
Atua	God
E noho	Sit (command)
E noho rā	Good-bye
E tū	Stand (command)
Haere mai	Welcome; come here
Haere rā	Good bye
Haka	War dance; posture dance
Hāngi	Earth oven; food cooked in a earth oven
Hapū	Sub-tribe; pregnant
Hīkoi	To march
Hine-nui-te-Pō	Goddess of death
Hongi	Greeting; pressing of noses
Huhu	Larva of a native beetle
Hui	To meet or gather; meeting or gathering

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[11] Definitions given are derived largely from Ryan (1989). The definitions are brief and reflect common, basic understandings of the words. As such, they are intended as a guide only. Fuller understandings of the words contained in the questionnaire may be gained by reference to Williams (1971).

Iwi	Tribe; bone
Kai	Food; to eat
Ka kite anō	See you again/later; good-bye
Kāo / Kāore	No; not
Ka pai	Good
Karanga	To call
Kaumātua	Elder
Kauri	Native tree
Kāwanatanga	Government
Kei te pēhea koe	How are you?
Kererū	Native Wood Pigeon
Kete	Bag
Kia ora	Greeting; thank-you
Kina	Sea egg
Kīngitanga	The King movement (a political movement)
Kiwi	Native bird
Koha	Gift
Kōhanga Reo	Pre-school total Māori language immersion; literally 'Language Nest'
Kōrero	To talk; to converse; a speech
Kuia	Female elder
Kūmara	Native sweet potato
Kura Kaupapa Māori	Total immersion school using Māori language and Māori methods
Kurī	Native dog; dog
Mana	Prestige; power; influence
Manuhiri	Visitor; guest
Mānuka	Tea tree
Māori	Tangata whenua of New Zealand; normal
Māoritanga	Māori culture (note that this word appears in the present text but did not appear in the original questionnaire)
Marae	Meeting place in front of meeting house
Māui	Demi-god, of many great feats
Mere	Club, usually of greenstone
Mimi	Urine; to urinate
Moa	Native bird (extinct)
Moana	Sea
Moko	Tattoo
Mokopuna	Grandchild
Noa	Profane; free from tapu
Pākehā	Person not of Māori descent; usually of

	European descent
Papatūānuku	The earth mother
Patu	Club; to hit
Pāua	Abalone
Piupiu	Grass skirt
Pōhiri / Pōwhiri	Welcoming ceremony; to welcome
Poi	A light ball attached to a string, swung and twirled to a musical accompaniment
Pounamu	Greenstone
Pūhā	Native plant/vegetable
Pūkeko	Swamp hen
Puku	Stomach
Rā	Day; Sun
Rangatira	Chief
Rangatiratanga	Sovereignty
Rangi / Ranginui	The sky father
Rātana	A Māori religion
Ringatū	A Māori religion
Rūnanga	Council; assembly; debate
Taiaha	Spear like weapon
Taihoa	Hold on; soon; wait a while
Tamariki	Children
Tāne	God of the forests; man (men)
Tangata	Person (people)
Tangata Whenua	Local Māori / people, literally 'people of the land'
Tangi	To cry; funeral
Taniwha	Water monster
Taonga	Treasure
Tapu	Sacred
Tēnā koe	Greeting (to one person)
Te Rongopai	The gospel
Te Karere	Māori News (Television programme); literally 'The messenger'
Te Reo	The language
Tihe mauri ora	Phrase used in speech making, literally 'the neeze of life'
Titiro	To look
Tohunga	Expert; priest
Tōtara	Native tree (note that this word appears in the present text but did not appear in the original questionnaire)
Tūī	Native bird
Tūmatakuru	A thorny shrub (note that this word

	appears in the present text but did not appear in the original questionnaire)
Tūrangawaewae	Home ground, literally 'place to stand'
Turituri	Be quiet; noise
Tūtae	Excrement
Utu	Revenge; price
Wahine	Woman (women)
Wai	Water
Waiata	Song; to sing
Waka	Canoe; vehicle
Whakarongo	To listen
Whānau	Extended family
Whare	House, building

Appendix 2
Composition of the sample by education and occupation

Education:
           Primary = 7
         Secondary = 77
          Tertiary = 42
      (17 missing cases)

Occupation:
Group numbers assigned from the Elley-Irving (1985) and the Irving-Elley (1977) indexes

           Group 1 =   4
           Group 2 =   8
           Group 3 = 41
           Group 4 = 42
           Group 5 = 28
           Group 6 = 11
        (9 missing cases)

Appendix 3
Composition of the sample by age and gender

Age:		Female	Male
	Group 1 (10-19 years)	22	21
	Group 2 (20-29 years)	16	12
	Group 3 (30-39 years)	10	6
	Group 4 (40-49 years)	9	13
	Group 5 (50-59 years)	8	5
	Group 6 (60-69 years)	11	1
	Group 7 (70-79 years)	2	5
		(2 missing cases)	

Appendix 4
Number of correct responses per word

(Top 31 words)[12]

A horizontal bar chart titled with y-axis label "WORD" showing the number of correct responses per word, from most to least:

Word	
MAAORI	
KIWI	
AOTEAROA	
HAKA	
KUUMARA	
MOA	
PAAKEHAA	
HAANGI	
MARAE	
HAERE-MAI	
TUUII	
PAAUA	
KIA ORA	
POI	
KAI	
MAANUKA	
PUUKEKO	
KAURI	
TAPU	
PUKU	
HUHU	
WAKA	
MOKO	
KINA	
TANIWHA	
MAUI	
WAHINE	
HUI	
HONGI	
WHARE	
MANA	

X-axis labeled **NUMBER CORRECT** with values 0, 100, 200.

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[12] For typographical reasons, long vowels are indicated by doubling rather than with macrons.

(Next 34 words)[12]

WORD		
PUUHAA		
TEENAA KOE		
WAI		
KA-PAI		
KOOHANGAREO		
AROHA		
WHAANAU		
TANGI		
IWI		
MOANA		
TAANE		
TANGATA WHENUA		
MERE		
HAERE-RA		
WAIATA		
MOKOPUNA		
KAUMAATUA		
UTU		
RAATANA		
E TUU		
TE KARERE		
AAE		
KETE		
RANGATIRA		
KA KITE ANOO		
KOHA		
TAMARIKI		
PAPATUAANUKU		
ENOHO		
RANGINUI		
WHAKARONGO		
POOWHIRI		
KEI TE PEEHEA KOE		
TANGATA		
TE REO		

NUMBER CORRECT

0   20   40   60   80

(Bottom 34 words)[12]

Next 34 words)[12]

WORD		NUMBER USED
KA-PAI		
KOOHANGAREO		
MAUI		
TEENAA KOE		
IWI		
WHARE		
TANGATA WHENUA		
MERE		
MOANA		
WAIATA		
TAMARIKI		
WAI		
HAERE-RA		
KETE		
KAUMAATUA		
E TUU		
TAANE		
MOKOPUNA		
POOWHIRI		
RAATANA		
AAE		
KOHA		
ENOHO		
E NOHO RA		
WAKA		
KA KITE ANOO		
UTU		
KEI TE PEEHEA KOE		
TE KARERE		
RANGATIRA		
TEREO		
POUNAMU		
WHAKARONGO		
KERERUU		

(Bottom 34 words)[12]

Bar chart titled NUMBER USED with words listed top to bottom: KURII, PAPATUAANUKU, KUIA, TAIAHA, RANGINUI, PATU, PIUPIU, KOORERO, HAPUU, MIMI, TUURANGAWAEWAE, TIHEE MAURI ORA, RAA, TUUTAE, ARIKI, TURITURI, TAONGA, NOA, TAIHOA, KAAORE, ATUA, TOHUNGA, TANGATA, KARANGA, RUNANGA, MANUHIRI, TITIRO, RINGATU, RANGATIRATANGA, HINE-NUI-TE-POO, HIKOI, KAWANATANGA, KIINGITANGA, TE RONGOPAI. Horizontal axis labeled 0, 10, 20. Vertical axis labeled WORD.