It's Harder in My Language but I Still Choose it

Te Taka Keegan

Department of Computer Science University of Waikato Hamilton. New Zealand [tetaka@waikato.ac.nz]

Paora Mato

Department of Computer Science University of Waikato Hamilton. New Zealand [pjm20@students.waikato.ac.nz]

Abstract

In New Zealand, the language that dominates most technologies is English. For a variety of reasons, interfaces have been made available in the Māori language for a range of modern technological tools. We have conducted usability studies on many of these products and fluent Māori users have almost unanimously stated that the products are more difficult and time consuming to use in the indigenous (Māori) language. They allude to unfamiliar instances and uses of Māori words, and to an ingrained familiarity with the English-language versions of these technologies, saying they would revert to the English-language interfaces if time is a factor. However, they also express a sense of pride at being able to see and use the Māori language in these various forms of media and state that although they experience some difficulty, the Māori-language versions would still be their first preference.

Introduction

Te reo Māori (the Māori language), is the native language of Aotearoa (New Zealand). In 2013, 21.3% of Māori (125,352) stated they could converse about everyday things using te reo Māori (Statistics NZ 2013). This level of fluency has decreased from 25.2% (2001) and 23.7% (2006) (Waitangi Tribunal, 2010: 103). According to The Ethnologue slightly over 70% of fluent Māori-language speakers are over the age of 45 (Gordon, 2005: 386). Given the assertions made by Fishman (1991; 2000) regarding the importance of intergenerational transmission to the health of a language, measures contained in The Atlas for Endangered Languages based on intergenerational transmission, and the observations of Te Paepae Motuhake (a team of Māori-language experts reviewing New Zealand's Māori Language Strategy 2003), te reo Māori can be classified as being somewhere between definitely endangered (children no longer learn the language as a mother tongue in the home) to severely endangered (the language is spoken by grand-parents and older generations; while the parent generation understand it, they do not speak it amongst themselves or to their children) (Moseley, 2010; Te Paepae Motuhake 2011: 17).

The use of translated modern technology as an avenue to promote the use of te reo would seem to cover off some fundamental areas in terms of increasing the use of the language. The technology can be continuously available, continuously shared, continuously updated, provided in a variety of settings and set in an environment that is most often used by younger generations. The use of translated technology would be somewhat ironic given that the use of modern technology has had the effect of promoting at least one

of the major languages, English for example, at the expense of "local" Indigenous minority languages and "is often blamed for homogenising our ever-shrinking world, particularly when it comes to cultures and customs (Lee, 2011: 1)."

This paper shares feedback from speakers of te reo Māori who have participated in usability studies focussed on technological interfaces that have been translated into te reo Māori. Although the comments and discussion have been taken from a number of studies (five) across some very different technologies, common difficulties and common dispositions are apparent.

Usability Studies Feedback

The usability studies highlight some common themes regarding the use of te reo Māori interfaces. While each of the studies were performed on distinctly different technologies, with separate user groups, and using varying methodologies, similarities were evident in two particular aspects of the responses. Firstly, it is more difficult to use new technologies when it has been translated into te reo Māori, and secondly, the participants generally agreed that they would still prefer to use the technology, in the first instance, in their own language.

Given that the studies are separate pieces of research, the quantitative data generated from each could only be compared as trends, and the responses, while qualitative in appearance, should be regarded as anecdotal. The comments presented in this paper are representative of the general responses received from the participants in each of the particular usability studies. Paper length constraints have limited the number of comments that could be included here.

The five usability studies are presented in the following five subsections. A brief introduction of the technology and the usability study is followed by quotes from the participants regarding the difficulties they encountered and their disposition to the technology. Each section is concluded with commentary that discusses how likely the participants were to use the device in te reo Māori in the future. Where the quotes are in te reo Māori, English translations, shown in italics within square brackets, have been provided by the authors.

Study #1: Microsoft Windows & Office

Microsoft Windows XP and Microsoft Office 2003 were translated into te reo Māori in 2005. This required the translation of over 900,000 words in over 180,000 separate strings (character sequences). Subsequent versions of Windows (Vista 7 & 8) and Office (2008, 2010 & 2013) are also available in Māori.

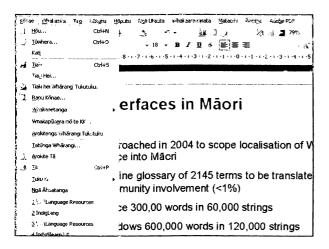


Figure 1: Microsoft Office in te reo Māori

Principals of Māori-medium schools in New Zealand were surveyed (by phone and email) to determine their use of te reo Māori on their computers and, in particular, their awareness and use of the reo Māori version of the Microsoft products (Mato *et al*, 2012). Responses were received from 47 (17%) of schools.

Difficulties Comments regarding the difficulties of using te reo Māori software in schools included:

"Some staff struggle with the vocab and aren't confident users of IT or the Māori vocab. The kids have less problems; they are better able to adapt."

"The new Māori words."

"Knowledge about these resources; payment for them."

"They [teachers] are used to the software already available on the computers."

"Lack of understanding of the language that's used."

Disposition participants were asked if Māori-medium schools should use Māori-medium software:

"Yes. Nothing is taught in English until high school years; as students are writing on computers all the time, these resources would make it easier for them."

"Yes. In the initial and early stages, want to teach the reo in many mediums including computers; English is foreign to the younger children so it's good to have programs in Māori so they can read it; can then integrate them into English later."

"Yes. It's our language of learning here and it would be an advantage to be able use computers in Māori."

"Yes. It would be much easier to allow students to use the computer; they would have the words there and could go straight into their work. They don't want to break into English – important for maintaining the language; currently they say it and then point to the English word on the computer."

"Yes. The current software is difficult for the children to navigate around as they are more familiar with te reo Māori as opposed to English."

Likely Use. The responses indicated that there was a general lack of awareness in Māori-medium schools that Microsoft software was available in te reo Māori. The anxieties faced by those schools that were aware of this interface were due primarily to the new vocabulary with some suggestion that teachers could be resistant as they had become proficient at using their computers in English and did not have the resources (time and finance) to upskill to using their computers in te reo Māori. However respondents unanimously agreed that te reo Māori software should be made available to Māori-medium schools to benefit the children.

Study #2: Two Degrees smart phone

In November 2011 a New Zealand mobile operator, Two Degrees Mobile Ltd, launched a smart phone with a te reo Māori/English interface. The device, a Huawei IDEOS X3 touch screen, provides an option that enables switching the interface language between English and te reo Māori.



Figure 2: Smart phone in te reo Māori

Usability studies were performed upon the phone between November 2013 and February 2014 (Naera, 2014). Of the twelve participants, nine were fluent/first language speakers of te reo Māori and three were classified as intermediate speakers of the language. The participants were asked to use the phone for a short period of time (2 hours – 2 days), complete some set tasks, then answer 10 questions regarding the phone's usability in te reo Māori.

Difficulties Comments from the participants regarding difficulties encountered included:

- "If there were no pictures it would be hard to understand."
- "There were some Māori words in there that I had not seen before..."
- "Some words were too long therefore some of the words were not visible."
- "Many words were new. Therefore it was difficult to use the interface because it took too much effort..."

Disposition Comments regarding participants' feelings towards using the smart phone in te reo Māori included:

- "Tino harikoa te ngākau ki te kite i toku reo i runga i te waea pūkoro [My hearts warms with joy at seeing my language on the mobile phone]."
- "Proud to be Māori. We need more of our reo out there."

- "I think it's a good step for our Māori language being integrated with the technology world."
- "Absolutely loved it. It's a positive avenue to the contribution of keeping te reo Māori alive."

Likely Use Although 12 out of 12 participants stated they found the English-language interface quicker and easier to use, 9 of them stated that if they had a bilingual smart phone they would select to use it in te reo Māori.

Study #3: 3M Library Kiosks

3M New Zealand have installed kiosks that enable library users to self-issue books and journals. The self-check kiosks are located throughout New Zealand in approximately 70 locations that include public libraries and educational institutes. The interfaces for these machines were updated in 2003 to include a te reo Māori option.

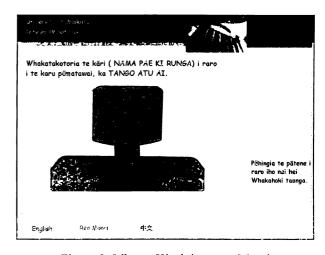


Figure 3: Library Kiosk in te reo Māori

A preliminary study on the usability of the Māori language interface of the kiosks was undertaken in 2013 (Mato, 2013). Six university students, fluent in te reo Māori, were asked to use these kiosks to self-issue some books using both the English and te reo Māori interfaces. The students then completed a short questionnaire regarding their experience and participated in an informal group discussion over a shared meal.

Difficulties Comments regarding the difficulties of using the kiosks in Māori included:

- "A fluent speaker of te reo would understand the interfaces but it would be very likely that learners or those less fluent would struggle."
- "Kupu hou [new words] made the instruction screens more difficult to follow."
- "I wanted to use the Māori but I didn't understand what the machine was asking me to do."

"If you are going to translate it make it understandable."

Disposition The students were asked how it made them feel to see te reo Māori being used in these library kiosks:

"It was awesome to see my language used in this manner."

"This was cool! I didn't even know that there was an option to use te reo Māori."

"I'm going to use the Māori option from now on, and recommend it to other people, Māori and non-Māori."

"It made me feel proud."

Likely Use. Although 2 of 6 students were more comfortable using English, and 3 of 6 students said the English language was quicker and easier to use, all 6 students said they would prefer to use the interface in Māori. They recognised that this interface may have been slower for them and if they were in a hurry they may switch to English. However because they were Māori, studying the Māori language and quite proud to see their language in this environment, they would choose to use the te reo Māori interface first.

Study #4: Far Cry 3

Far Cry 3 is a first-person shooter game developed by Ubisoft for Microsoft Windows, Xbox 360 and Playstation 3. It was released 2012, is set in a tropical island, and features scenes where some of the local inhabitants speak in te reo Māori.

The testing group consisted of 8 secondary school Māori students, 6 male and 2 female, between the ages of 14 and 18 and fluent in te reo Māori. The game was set up in two separate rooms and played by the students with a particular focus on the scenes where te reo Māori was being spoken (Keegan & Mato, 2013). Five of the students had played the game before and 6 of the group classified themselves as 'gamers'. After almost 2 hours of group play we asked the students six questions in a discussion group environment, again, over a shared meal.



Figure 4: Māori avatar in Far Cry 3

Issues Negative comments from the participants regarding the encountering of te reo Māori in this environment included:

"The accents heard in the game were inconsistent and sometimes sounded random."

"There was a scene where they were doing a haka [Māori war dance] but they were using weird actions and unusual words...which is not right."

"They were just stereotyping our culture..."

Disposition Further comments regarding participants' feelings towards te reo Māori in the gaming environment:

"It was surprising to hear our language in a world-wide game."

"The chances of coming across a game that uses our language... is so slim."

"It would be better to have a game that was created by someone that had a knowledge of Māori language and an understanding of tikanga [culture]."

"If the game was from a Māori perspective, it would look quite different... there would not be the same [gratuitous] violence."

"The game has an emotional impact because it is our language."

Likely Use The students stated they would prefer to see (and play) games such as this in te reo Māori if it was spoken correctly and truly represented Māori culture. In this case they would be excited to play these games. However the students commented that because the gaming market is an international market it is unlikely this would happen.

Study #5 Google Translate

Google Translate is an on-line translation facility made available by Google. It uses statistical machine translation techniques to automatically translate between approximately 80 of the world's most spoken languages. In 2013 the facility was made available for te reo Māori translations with a te reo Māori interface.

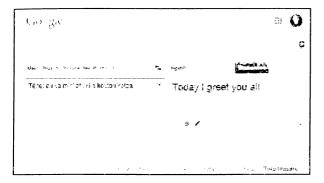


Figure 5: Google Translate in te reo Māori

In February 2014, as part of a usability study, six Māori language experts agreed to undertake some preliminary testing of the te reo Māori translate facility (Ropitini, 2013). Four participants responded through email and two participants were interviewed in person. All questions, responses and interviews were conducted in te reo Māori.

Difficulties Comments regarding the issues of having te reo Māori on Google Translate include:

- "Āe e taea ana ngā kōrero te whakamāori, erangi te nuinga o ngā kōrero ka puta hapa mai. Kāore i te pai ki a au... [yes, some text can be translated, however most of the text is appearing with errors. I am uncomfortable about that]."
- "E nui ana ngā hapa kei te puta [lots of errors are appearing]."
- "Ko tētahi raru nui o tēnei mea kei te hapa ngā whakaputanga māori o tātau reo. [the largest problem with this is the mistakes that are appearing in the translations of our language]."
- "Ko te hē o te whakamāori te tino koretake o tēnei hangarau [the mistakes in the translations is the most useless aspect of this technology]."

Disposition The participants were asked how it made them feel to see te reo Māori being used in Google Translate:

- "Rawa atu he mīharo ki te kite atu i te reo e piki ake nei ki roto me waenganui o ngā hangarau nui a Pakeha [very amazing to see the language ascend to be used in one of the most important technologies]."
- "Ko te pai kei te rangonatia te rangatiratanga o to tātau reo ki tēnei taumata hangarau [the benefit is that the status of our language is seen at this level of technology]."
- "Kāore i kō atu i te mihi ki te au kaha mai o to tātau Reo i tōnā ekenga atu ki runga i te Kūkara nei kia tirohia mai e te ao kei te ora tō tātau reo. Ki au nei ka pai tōna ekenga ki reira, ērangi kei te āwangawanga ki te āhua o te tika o ngā whakaputanga whakamāori. [Huge gratitude that our language is on Google because it shows to the world that our language is still alive. I think it is good that our language is there but I have concerns about the correctness of the translations]."
- "Ko te ao e noho atu nei koe, e noho atu nei tāua he ao e kī ana i ngā momo hangarau katoa, kia kaua tātau te māori e whāiti, kia whānui te titiro me te haere. Ko te ao o aku mokopuna kei ngā hangarau katoa nei, nō reira me kimi huarahi e rata mai ngā mokopuna ki tō tāua reo maori i roto i te hanga o ngā hangarau nei. [The world that we reside in is a world filled with lots of different technologies, our perspective and our approaches should not be narrow minded. The world of my grandchildren is a world filled with technology therefore we must find avenues that entices our grandchild to the Māori language from within technology]."

Likely Use. While few of the participants specifically commented on whether they would use the resource in the future, there was a consensus that technology was rapidly changing and it was important that te reo Māori sought avenues to be part of those changes.

Conclusion

Two themes have clearly emerged from the participant feedback despite the comments being recorded from a diverse range of participants and the discussions covering a wide range of technologies. Firstly, it is more difficult to use modern technology in te reo Māori. Secondly, despite this difficulty, Māori still want to use modern technology, at least initially, in their own language.

The primary difficulties arose from words in the interface that were unfamiliar, often new and recently coined, and words that were used in an unfamiliar

fashion. The resulting interface display and instruction was difficult to understand fully and, subsequently, more time-consuming to use. Feedback also mentioned a lack of awareness that the interfaces existed. Users of Far Cry 3 were disappointed with the inappropriateness of the language used, while users of Google Translate were concerned about the correctness of the translations that were being produced.

In spite of the difficulties, the over-arching sentiment of each group was pride. The participants were proud to see te reo Māori used in these types of environments and to know that te reo Māori was now available within these resources; it demonstrated that the language was alive and relevant in this modern world. As Māori, it was uplifting for them to see and use these new technologies in their own language 1.

Despite the challenges and extra effort the translate interfaces presented, almost of all the participants stated they would prefer to use these interfaces in te reo Māori.

The feedback in these studies portrays a very real regard that Māori have in terms of their own language. The intent to persist in te reo Māori, despite the difficulties encountered, emphasises the importance of the language to Māori and perhaps reflects the value, importance and esteem that indigenous peoples in general place on their own languages. The feedback also highlights the realisation that for indigenous languages to survive in a modern technological world, they will need to embrace an active role within modern technologies.

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References

- Fishman, J.A. (1991). Reversing Language Shift: Theoretical and Empirical Foundations of Assistance to Threatened Languages. Clevedon, Multilingual Matters.
- Fishman, J.A. (2001). Can Threatened Languages Be Saved? Reversing Language Shift, Revisited: A 21st Century Perspective. Multilingual Matters.
- Gordon, R. (Ed.) (2005). Ethnologue: Languages of the World (15th ed.). Dallas, Texas, USA: SIL International.
- Keegan T.T. & Mato, P., (2013). Māori Perspectives on Using Te Reo Māori In Far Cry 3. Unpublished report.

- Lee, D. (2011). Micro-blogging in a mother tongue on Twitter. Retrieved from
 - http://news.bbc.co.uk/2/hi/programmes/click_online/9450488.stm
- Mato, P. (2013). Library Kiosks in Te Reo Māori. Unpublished report.
- Mato, P., Keegan, TT., Cunliffe, D. & Dalley, T. (2012). Perception and use of software with a Maori-language interface in Maori-medium schools of New Zealand. In: Language Endangerment in the 21st Century: Globalisation, Technology and New Media, proceedings of the Foundation for Endangered Languages XVI Conference, Auckland, New Zealand, 2012: 87-92
- Moseley, Christopher (2012). The UNESCO atlas of the world's languages in danger: context and process. World Oral Literature Project Occasional paper 5, University of Cambridge. Retrieved from www.dspace.cam.ac.uk/handle/1810/243434
- Naera, L. (2014). The Usability of a Māori Language Smart Phone. Unpublished report.
- Ropitini, W. (2014). *Etahi Whakaaro Mō Te Google Whakamāori*. Unpublished report.
- Te Paepae Motuhake. (2011). Te Reo Mauriora: Te Arotakenga o te Rāngai Reo Māori me te Rautaki Reo Māori (Review of the Māori Language Sector and the Māori Language Strategy). Wellington: Te Puni Kōkiri
- Statistics New Zealand (2013). 2013 Census QuickStats about Māori. Retrieved from
 - www.stats.govt.nz/Census/2013-census/profile-and-s ummary-reports/quickstats-about-maori-english/m aori-language.aspx 2014/07/23
- Waitangi Tribunal. (2010). *Pre-publication, WAI 262 Te Reo Māori*. Wellington: Waitangi Tribunal.