

“Reflections on 5 Years of Teaching Computing through the Medium of the Māori language”

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He Mihi

Ko te wehi ki ngā atua o runga rawa, he whakahonore i a Te Arikinui Te Atairangi Kahu e noho mai nei i runga i te ahurewa tapu o ngā mātua tīpuna, i tōna hoa rangatira a Whatumoana, tā rāua whānau me te Kāhui Ariki whānui.

Tēnei hoki te mihi atu ki te mano tini kua mene ki Paerau, ki te kāpunipunitanga o ngā wairua. Takoto mai, takoto mai, moe mai.

Nō reira, tātou o te ao ora, kia ora huihui mai anō tātou.

Introduction

This paper is written to relate experiences and lessons learnt over the last five years of teaching computing through the medium of the Māori language.

It is hoped that an insight will be gained into the problems and the rewards of teaching a new technology through the medium of an indigenous language. It is also hoped that should conference members find themselves or students/staff that they are dealing with in a similar position they will be aware of some of the difficulties and some possible benefits that can be derived from this type of learning.

Background

In 1991 a program called Te Tohu Paetahi began within the Bachelor of Arts Degree at

the University of Waikato. Initiated by the Department of Māori, it is a fully recognised degree in which the medium of instruction is the Māori Language.

However it differs from other degrees in that for the first year the students are required to enrol in 6 specified language (Māori) papers and 1 customs paper. The following two years the students go ‘mainstream’ where they disperse from their one class-group and pursue subjects of their own particular interest that are offered through the medium of the Māori language. This in turn has challenged schools throughout the University of Waikato to offer papers taught in Māori.

SCMS Response

In 1993 the paper 0657.113 Ngā Tautono Rorohiko was offered by the Computer Science Department within the School of Computing and Mathematical Sciences (SCMS). It was an introductory course to computing taught mostly¹ through the medium of Māori. It was in effect, breaking new grounds as it were, and its current equivalents still are, the only computer science courses taught through the medium of the Māori language at any university in New Zealand, and consequently in the world.

Due to a changing technology, the course was constantly revised, and if significant

¹ Lectures were in English, tutorials and most of the Laboratory book was in Māori, computer commands and responses were in English.

changes were made it became necessary to offer a different paper. Thus the SCMS papers in the medium of Māori that have been offered are:—

- 1993 – 0657.113 Ngā Tautono Rorohiko
- 1994 – 0657.113 Ngā Tautono Rorohiko
- 1995 – 0657.103a He Kawenga Rorohiko
- 1996 – 0657.123 He Tomokanga ki te Ao Rorohiko
- 1997 – 0657.124 He Tomokanga ki te Ao Rorohiko
- 1998 – 0657.124 He Tomokanga ki te Ao Rorohiko
- – 0657.234 He Puāwai ki te Ao Rorohiko

I think it would be fair to say that as the courses progressed the quality of them improved as the lecturer became more aware of what level of translation was best and what type of examples was most suitable.

Student Numbers and Success Rates

The enrolment numbers and success rates may be determined by the following chart;

Year	Enrol	I/C	Pass	Ave.	Eng.
1993	19	3	16	54.9	56.9
1994	29	3	26	54.8	53.7
1995	9	3	3	68.8	67.0
1996	34	4	28	72.3	63.1
1997	62	11	49	63.8	62.5
1998 level i	33				
1998 level ii	10	0	10	72.4	

Table 1: Student Numbers and Pass Rates

Where:-

- Enrol** = students enrolled
- I/C** = incomplete course work
- Pass** = students passed
- Ave.** = average student pass grade
- Eng.** = average student pass grade for equivalent course in English

From the chart we can see that 1995 was a particularly bad year, which can be attributed to the wrong paper having been taught. 1997 was a good year in terms of student numbers and in 1998 two courses were offered. Also we can see that the average pass rate of the Māori language version is comparable to the average pass rate of the English language version.

There are many benefits of teaching a paper like this through the medium of the Māori language. They can be grouped into three categories; advantages to the students, advantages to the school, and advantages to the Māori language.

Advantages to the Student

The Tohu Paetahi students have another paper that can be used in their degree structure. University papers taught through the medium of the Māori language are few outside of the Māori department.

The computing skills and knowledge that is taught in the paper is an essential tool for any student. However Māori language word processing requires special attributes (e.g. Māori fonts, Māori auto-correct and Māori spelling) that is only taught in this paper.

As well as learning computer skills the students are practising and improving their Māori language knowledge.

The *wairua* or feel of the class is different. In part due to the Māori language the class displays a Māori *wairua*. The class tends to be more relaxed and open than the equivalent class in English. There seems to be a very helpful, united, and almost family feeling amongst students and between students and teachers—which can be best described by the Māori terms *manaaki tangata*, *kotahitanga*, and *whanaungatanga*.

Because of the nature of the work computer classes tend to be individually orientated, often the closest relationship that is formed is between the student and his/her computer. However this does not tend to happen in the class when taught through the medium of the Māori language.

It is not uncommon for a Polynesian student to feel foreign in a computer class, especially if they have had little or no previous computer experience. However it is very difficult for them to feel foreign if the class is taught in their traditional language. It is as if they have a birth-right to be in the class.

Advantages to the School

Funding is increased through meeting the requirement of a previously untapped source of students.

Māori students often go on to do further papers in the field of computer science. Thus student numbers, and Māori involvement in the computer industry is again increased.

The school is seen internally, locally and nationally to be supporting Māori initiatives and fulfilling Treaty of Waitangi obligations.

Advantages to the Māori language

The course shows that the Māori language is capable of encompassing a new technology.

New words are generated. This also shows that the Māori language is not a static language but instead is growing and developing to suit its changing environment.

Māori language initiatives, like Te Tohu Paetahi, are supported.

Avenues are opened up so that when more Māori language speaking students, like graduates of Kōhanga Reo², Kura Kaupapa Māori³ and Whare Kura⁴ begin enrolling into the University of Waikato they have more opportunity to undertake courses taught via the medium of the Māori language.

² Pre-school child care centre conducted in the medium of Māori

³ Primary school conducted in the medium of Māori

⁴ Secondary school conducted in the medium of Māori

Difficulties in Learning

Students still inexperienced with the Māori language have difficulty as not only do they have to figure out what is being said, they also have to figure out what it means. This is compounded by the fact that the computing industry has a whole new language all of its own.

The rhythm and meter of the lecturer may at first be difficult to the student learning the Māori language and his use of new terms may be difficult for older students versed traditionally in the Māori language.

A large amount of new words is difficult for students to grasp, especially when those words are rarely used in computer responses. Also, there is not as yet, one universally accepted set of computer terms. Thus students who had learnt Māori computer terms from a previous field may still have to re-learn new words.

Although not specific to the Māori language version, a major obstacle, especially with older students, is overcoming the fear of new technology.

The initial courses were often confusing as the different types of delivery were often handled via alternating languages. For example, the 113 version of the course began with a lecture in English, followed by a tutorial in Māori. It had practicals which were entered and responded to in English but were given out in a manual that some sections written in Māori and some sections written in English.

Difficulties in Teaching

The first major hurdle is finding staff who have a sound computer knowledge and are conversant in the Māori language. This is needed from lecturer, to tutor, to lab exercise writer, to marker, to demonstrator.

It will always be difficult writing a course using a language that has not traditionally been used to express the subject. Finding new terms and creating suitable examples will always be challenging as it requires an in-

depth knowledge of the language and field of study, and an ability to create teaching material that is clear and easily understood.

Time is another difficulty. It is usual for the computer labs to be upgraded over the teaching recess. The English versions of the laboratory manuals are completed first, often being completed close to the return of students. This leaves very little time to work on the Māori language version.

As the computer industry is advancing at a rapid pace the material taught must be constantly revised. This equates to a constant re-write of manuals.

Lessons for Learners

The students must turn up to class!

The students must read the course material and be especially clear on the way the course is assessed. Although this point and the previous are not specific to this mode of teaching, because they are so important I felt they could not be omitted.

The saying;

'if you don't use it, you lose it'

definitely applies to education in the computer industry, and even more so if it is taught using a terminology and language that is new to the student.

If a student does not clearly understand a concept, a lecture, a tutorial, a practical or an assignment then they must ask. Often a fellow student is asked in the first instance. If they do not feel confident asking in say, Māori, then they should ask in English, as understanding the topic is the paramount issue. However if they find they are using more English than Māori then they may as well have enrolled in the English version of the course.

In important assessments the student should endeavour to verify that the work they are doing is on the right track.

The computer does not think using the English language. Thus it can be taught to converse in Māori just as easy as any other

language. It is also not a tool reserved for a particular race or social standing.

The computer will break down at the worst possible time. There is no way to avoid this and it is simply best to accept this as one of the lessons of computing.

The student must be very committed to the language—though this has never been a problem in the previous 5 years of my teaching experience.

Lessons for Teachers

It takes a lot of time to translate a course into a language that has not been there before.

Once the initial translation is made it must be constantly revised.

Text written must be as simple as possible. Initially a large amount of new words was provided but this proved to be too confusing. Currently new words are created and used only if they are absolutely necessary.

A balance must be found in the ratio of Māori to English that is used. I have found that there is no justification in translating words like 'MicroSoft' and 'Macintosh.' Also when introducing terms like '*Ripanga*' (meaning Spreadsheet) I try to use both terms until I can see that the students are comfortable with the Māori term.

When a student asks a question in English and the answer is quite long then I will usually respond with the majority of the answer in English. I will also make a mental note to myself that this student is not yet comfortable using the Māori language.

Students must be regularly checked to ensure that the work they are doing is on the right track. Confusion can sometimes occur, which I attribute as much as anything, to my inexperience as a teacher and short-comings in my knowledge of the Māori language.

Being Māori, and having to teach to relatives and good friends tends to mean an extra commitment is required. Fortunately, this is not usually too difficult and without

exception is appreciated. There is a Māori proverb which goes:-

‘aroha mai, aroha atu’

which in this case means when goodwill is received it will also be returned.

Summary

At the end of the day, using an indigenous language to teach a new technology is possible and is practicable.

Students that may not normally consider entering the field of computer science are given an opportunity in an environment in which they are comfortable. However, if they think that it is an easy option they had better think again.

The course is difficult. Preparing and teaching it is difficult. However the rewards to the students, to the lecturers, to the school, and to the language more than justify the extra effort.

Kāti i kōnā.

Noho ora mai tātou katoa.