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*Teaching of Māori language pronunciation based on research and
speech analysis*

Peter J. Keegan
Waipapa Taumata Rau // University of Auckland

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Teaching of Māori language pronunciation based on research and speech analysis

PETER J. KEEGAN

Waipapa Taumata Rau // University of Auckland

Abstract

This paper describes a linguistic-based approach to teaching Māori language pronunciation to university undergraduate and postgraduate students at the Faculty of Education and Social Work of Waipapa Taumata Rau, the University of Auckland. There is no research on teaching Māori language pronunciation. This is hampered by incorrect information on Māori phonetics in the literature and online. My teaching is enhanced by acoustic analyses of my New Zealand English and Māori production and knowledge of the appropriate research descriptions of these languages. I describe my teaching approach and discuss issues of using linguistic research in the Māori speaking and Māori academic community.

Keywords

Te reo Māori, Māori language, teaching pronunciation, acoustic phonetics

1 Introduction

This paper describes my current efforts to improve the teaching of the pronunciation of Māori (the Indigenous language of Aotearoa/New Zealand) to tertiary students using insights gained through research and recent acoustic analyses of my speech in New Zealand English (NZE) and Māori. I am a Māori linguist/academic (Waikato-Maniapoto/Ngāti Porou), a native speaker of NZE, and a second-language speaker of Māori who learnt Māori post-adolescence. I lecture in the Faculty of Education and Social Work at Waipapa Taumata Rau, the University of Auckland, in Aotearoa/New Zealand. I regularly present lectures on the pronunciation of Māori in initial teacher education programmes at undergraduate and postgraduate levels and try to improve my lectures by integrating research and student feedback. Teaching pronunciation has a paucity of research and is hampered by a lack of suitable resources, both online and in print and widespread simplifications leading to misinformation on Māori pronunciation. I argue that teaching pronunciation needs to be research based and that undertaking analyses of one's

speech provides additional insights and motivation for ongoing research, leading to improvements in teaching.¹

2 Māori and Māori language in Aotearoa/New Zealand

New Zealand's population is currently just over 5 million. Approximately 17% identify as Māori (the only Indigenous group), 8% are Pacific Peoples, 15% are Asian, and 70% are European, with 2% being other ethnicities (Stats NZ n.d.). English is spoken by 95% of the total population, with 4% being speakers of Māori. Māori has been an official language of New Zealand since 1987. Significant efforts have been made since the 1970s to revitalise Māori as an everyday language (see King 2018 and the references therein). Kōhanga reo (language nests for young children) is an internationally well-known model of instruction, along with other Māori language schooling initiatives. It is important to note that over 85% of Māori are now living in urban areas (see Pool 1991 for details on Māori urbanisation). Urbanisation has resulted in the breakdown of many rural Māori communities along with cultural dislocation for Māori youth growing up in the cities with little contact with traditional Māori cultural practices, including the use of Māori language.

Māori language revitalisation efforts have renewed interest in Māori language learning among students and adults in Aotearoa/New Zealand. Almost all tertiary institutions teach Māori language, and currently, some institutions in Auckland have waiting lists of students wishing to enrol in their courses. Despite the long history of teaching Māori, there is very little research on teaching Māori, and, in particular, there is nothing whatsoever on teaching Māori language pronunciation.

3 Māori phonology/phonetics

Māori phonology is reasonably straightforward. In standard Māori (see Keegan 2017 for a description of Māori dialects), there are ten consonants: /p t k m n ŋ f h r w/, and five monophthongs /i e a o u/, with phonemic long and short durations. Monophthongs can be combined to form diphthongs. The syllable structure is (C)V(V)(V), i.e. Māori is an open syllable language with no consonant clusters. Vowels are not nasalised, and lexical tones are not attested (see Bauer et al. 1993 and Harlow 2007 for more detailed descriptions). Māori uses the Roman script, with long vowels designated with a macron. The MAONZE (Māori and NZE team) project ([MAONZE](#) n.d.), of which I am a member, has been studying sound change in Māori and NZE since 2004. The project has demonstrated clear changes over time in Māori vowel quality, with back vowels fronting and mid vowels rising; and quantity, with long vowels becoming shorter in duration (Keegan et al. 2014). Some of the changes have been influenced by changes in NZE, as all Māori speakers are speakers of NZE, except perhaps for some very young Māori infants.

However, many areas of Māori phonetics, especially modern Māori, require further research. No research has been undertaken on vowel reduction in modern Māori or the use of non-standard linking (semi-)vowels. Aspects of prosody, such as stress assignment beyond the word level, require further research. Isabella Shields et al. (2024, see pp.105-131 this volume) is researching acoustic realisations of the consonant /r/ in Māori. Additional acoustic work is needed on other consonant production in modern Māori, along with more work on diphthong

¹ The following conventions are used in this article: < > angle brackets to show orthographic representation; / / sloping brackets to show phonemic representation; [] square brackets to show phonetic detail; ː tie bar to indicate a diphthong; ˈ vertical line to show primary stress/prominence.

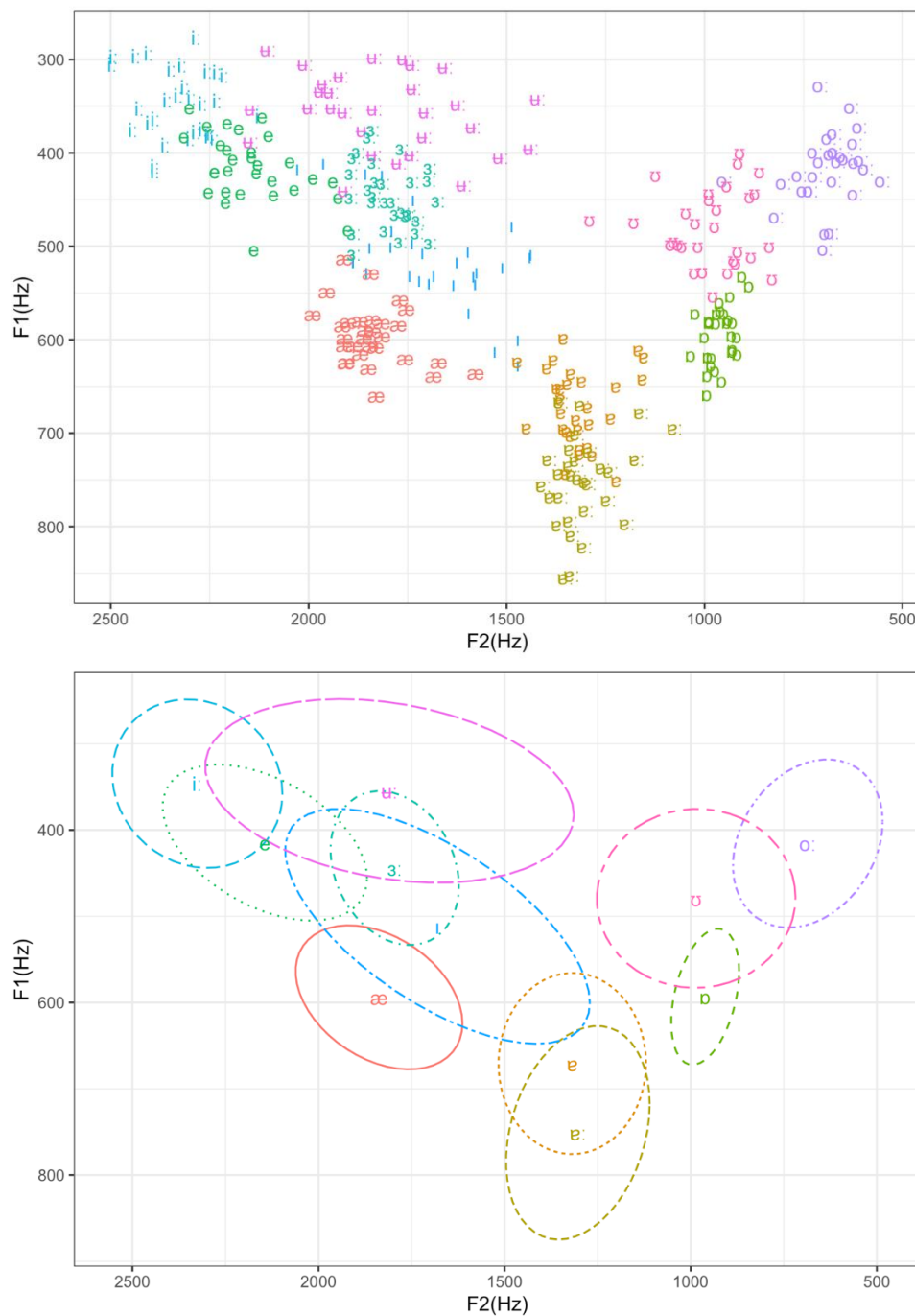
production. Watson et al. (2016) focus on static diphthong production, whereas King et al. (2014) and Stoakes et al. (2019) focus on dynamic diphthong production.

Regrettably, there is much inaccurate or oversimplified information on Māori phonology/phonetics online and in the print literature. For example, a Wikipedia article on Māori phonology ([Māori Phonology](#) 2023) currently provides contradictory information on Māori stress patterns. The first paragraph claims Māori stress patterns are unpredictable, a misquote or misunderstanding of Harlow (2007). Further down that page, a section is devoted to stress and describing how the general rules work. These “general rules”, based on Biggs (1973), correctly account for the majority of Māori word stress assignment. The Wikipedia article should state that Māori stress patterns are not always predictable.

Recent pedagogical books on Māori language by Māori authors, including some who are licensed translators and claim to be linguists (tikanga Māori somewhat limits me as a Māori author from naming those Māori authors in this article, although I intend to elaborate on this issue elsewhere), provide oversimplifications of Māori phonology. A more realistic description of [Māori phonology](#) can be found on my website (Keegan 2023). This site is regularly updated, especially upon notification of mistakes by readers. In addition to being conversant with the linguistic research on Māori phonetics and phonology, I have begun to analyse my own speech, i.e. Māori and NZE, both out of interest and for pedagogical purposes. I detail my efforts to date in the following sections.

4 Analysing my speech production

In 2020, I provided Māori speech recordings (1030 sentences, recorded in a soundproof room) to develop a prototype of a Māori synthetic voice (James et al. 2020) currently available online as [Aotearoa Voices](#) (n.d.). I also recorded 2021 passages (in NZE) from the Mansfield Corpus (Watson & Marchi 2014). These data allow me to analyse and visualise my production of careful speech in both languages. In 2022, I also recorded over an hour of my conversation speech in both Māori and NZE to allow the comparison of careful speech to conversation speech. Analyses of these data are still in progress. The careful speech recordings were transcribed and then the Montreal Forced Aligner (McAuliffe et al. 2017) was used to align text to recordings. Outputs were exported to an EMU database (Winkelmann et al. 2021), with R software (R Core Team 2021) used to extract vowel formant values and durations. The data presented here were visually inspected and hand corrected by an expert researcher. Figure 1 provides formant plots (F2/F1) of my NZE and Māori monophthong vowel quality in careful speech ($n = 30$, for each vowel, except Māori \bar{i} ($n = 23$), which, outside of words such as *pīrangī* ‘want, desire’ and *kī* ‘say, speak be full’, rarely occurs in Māori). The plots widely used in phonetics for formant description are deliberately reverse scaled as these displays highly correlate with tongue position (height/front to back), illustrating critical differences in vowel production.



Labels: **i** = fleece, **ɪ** = kit, **e** = dress, **ɜ** = nurse, **u** = goose, **ʊ** = foot, **o** = thought,
æ = trap, **ɒ** = lot, **ɔ** = strut, **ɔ** = start

Figure 1. Formant plots (scatter and centroid/ellipse plots) of Peter Keegan's NZE monophthongs (vowels)

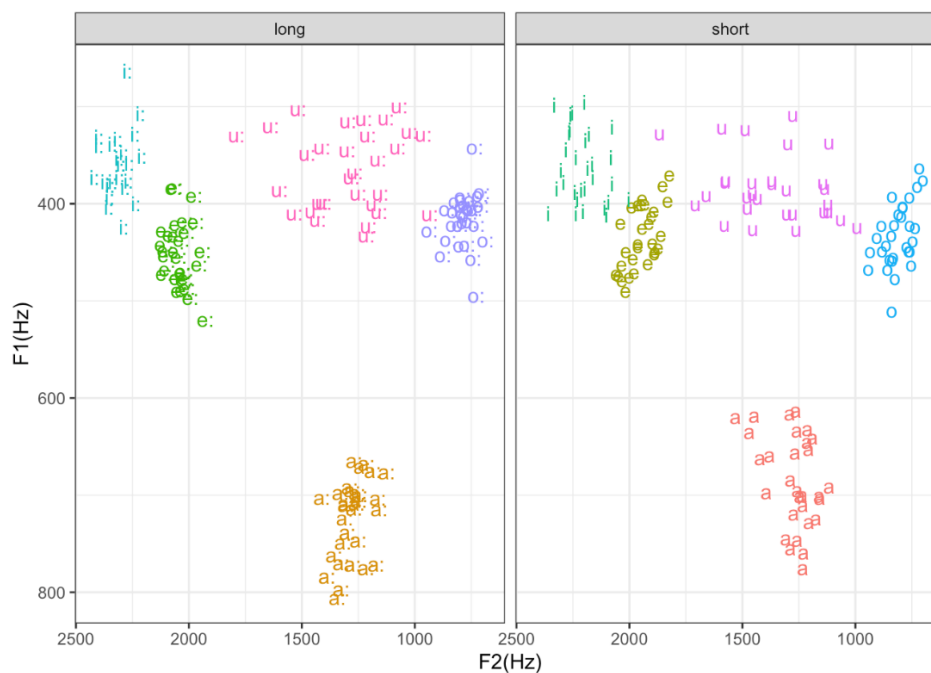


Figure 2. Formant scatter plots of Peter Keegan's Māori long and short monophthongs (vowels)

Figure 2 shows the formants for my Māori long and short vowels. The data are presented as scatter plots. The visualisations of my NZE and Māori vowel quality in Figures 1 and 2 are important for several reasons. Firstly, these plots demonstrate that my vowel quality is consistent with the broader research on Māori (Watson et al. 2016) and NZE (Brand et al. 2021; Maclagan & Warren 2021) for someone of my age. Secondly, they clearly illustrate differences in the quality of Māori short and long vowels. Thirdly, comparing Figures 1 and 2, there are clearly differences in the vowel system between NZE and Māori. There are observable differences in Māori vowel quantity (i.e. duration) production compared to NZE. At the time of writing, I am still undertaking analyses of my diphthongs; these data will be detailed elsewhere in 2024/2025.

Figure 3 presents my Māori (labelled MI) and NZE monophthong vowel durations. The top plot illustrates my Māori monophthong durations, with the pair <a> /a/, <ā> /a:/ displaying the clearest separation, i.e. the most distance in duration. However, these differences reflect MAONZE durations relatively well (Keegan et al. 2014). The middle plot displays my NZE vowel durations, which, to my knowledge, are reasonably similar to other NZE speakers of my age and gender (Watson et al. 2016). The final plot, out of interest, provides my Māori and NZE vowel durations from shortest to longest durations in milliseconds. This is useful for demonstrating that NZE long vowel durations may be longer than Māori long vowel durations.

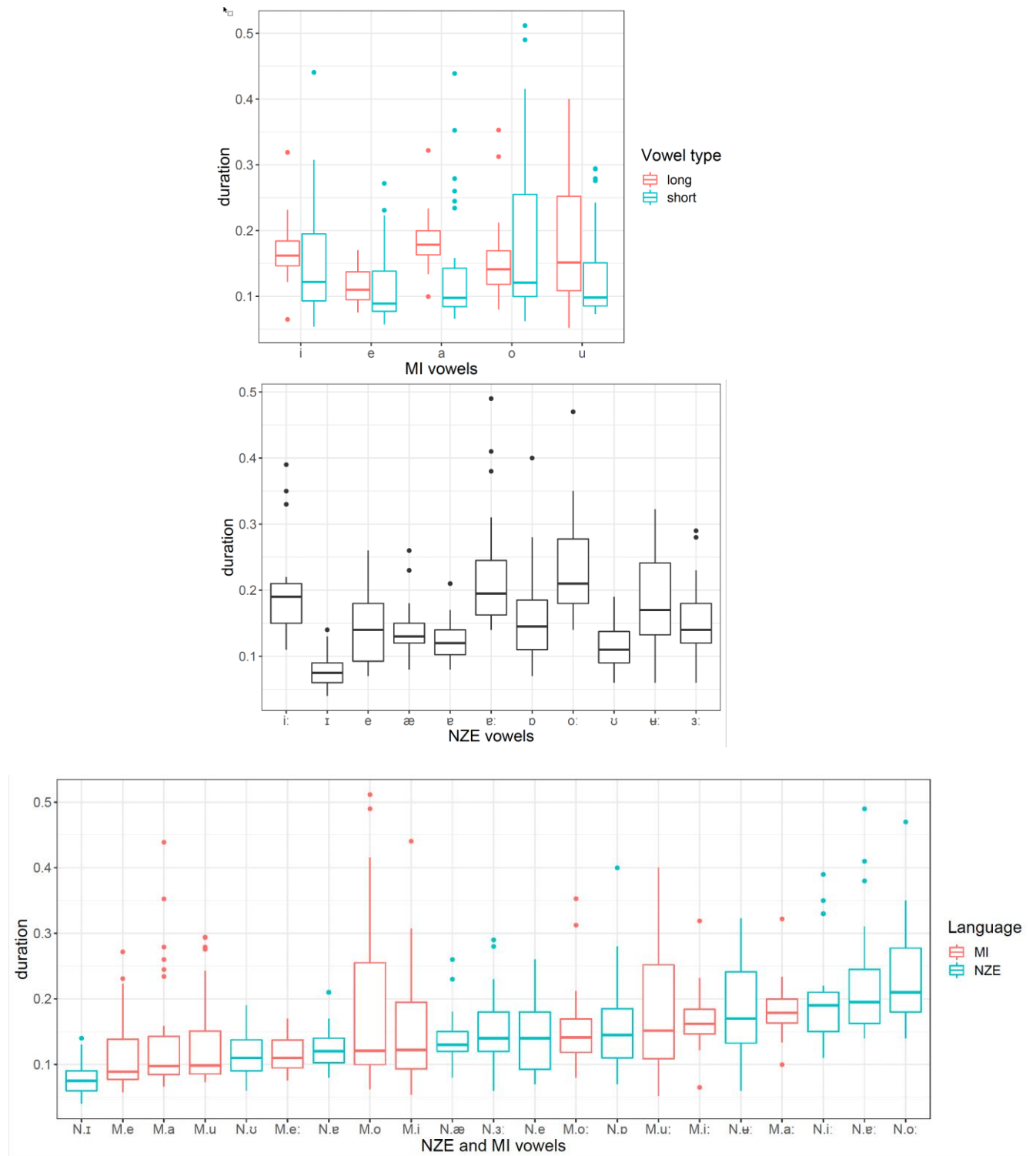


Figure 3. Boxplots of Peter Keegan’s Māori and NZE vowel durations (milliseconds), separately and by order of duration

It should be noted that the formant and duration values presented have limitations and do not cover all aspects of vowel production.

5 Māori pronunciation resources

Few print resources focus on teaching Māori pronunciation. Hone Niwa's (2003) *Pronounce Māori with confidence: An easy guide*, with a foreword by Te Taura Whiri i te Reo Māori/Māori Language Commission, is available in New Zealand bookshops. The book includes a CD-ROM containing sound files. It provides a somewhat limited description of Māori vowels, including the following statements:

But in Māori, it is important that each vowel is given its own sound.
In effect, every vowel is a separate syllable.

It is common to find three or more vowels following each other, and you need to practice [sic] saying them all distinctly.

(Niwa 2003:16)

This description is clearly limited to vowel sequences and does not cover diphthongs. Three-vowel sequences in Māori are often a diphthong followed by a monophthong or a monophthong followed by a diphthong.

Most online pronunciation resources provide simplified and often incorrect descriptions of Māori pronunciation. Te Taura Whiri i te Reo Māori, the Māori Language Commission (n.d.) refers users to an online [guide to Māori pronunciation](#). This webpage does not mention diphthongs, and erroneously claims the /r/ is rolled. The “rolling r” is used by non-linguists to describe [r] in words like nurse in NZE. It is not a linguistic term (see Shields et al. 2023, in this volume, for details on flap/trill/approximant articulations of <r>). The webpage also claims “digraphs are two letters that combine to form one sound”. It should state that digraphs are two-letter combinations representing a single (consonant) sound. [Te reo Māori pronunciation guide](#) at Te Herenga Waka, Victoria University of Wellington (n.d.) also claims that digraphs are two letters that combine to form one sound. This webpage mentions diphthongs but does not provide any examples. The webpage also claims that the /r/ is “rolled”. It currently refers users to Te Wiki o te Reo Māori website, which was offline at the time of writing. The University of Waikato (n.d.) [pronunciation guide](#) provides a soundboard of monophthongs in Māori syllables and words. Diphthongs, misspelt as “diphthongs” on the webpage, are also presented, although it appears the term is being used to mean any dissimilar sequence of two vowels in Māori. There are also examples of the pronunciation of words, phrases and proper nouns, including many staff names. There is a sad irony here: two of the foremost Māori phonology and phonetics experts, Ray Harlow and Winifred Bauer, lectured for many years at the University of Waikato and Victoria University of Wellington, respectively. Their publications (Bauer et al. 1993; Harlow 2007) provide accurate details on the Māori language, which are often referred to in linguistic work on Māori and which are sufficient for any website description.

There are undoubtedly other Māori online pronunciation resources available on social media sites, such as Facebook, YouTube and others. Most are likely to include fluent speakers of Māori providing “models” of correct pronunciation. I have yet to find any resource I would recommend to students learning Māori online. There are, however, at the time of writing, worthwhile YouTube resources on general articulatory and general phonetics, including Evan Ashworth's (n.d.) [YouTube videos](#) and Geoff Lindsey's (n.d.) more comprehensive speech [YouTube Videos](#), and the [Seeing Speech website](#) (Lawson et al. 2018). Introductory linguistic textbooks often provide good speech production coverage (see e.g. Genetti 2018).

5.1 MP*Ai* (Māori pronunciation aid)

This section briefly describes the MAONZE team’s attempt to create a Māori pronunciation aid (MP*Ai*), which was based on the MAONZE speaker database. The tool, well described in Watson et al. (2017), is a Windows-only application (henceforth “app”) that provides visual feedback on individual vowel production via formant analysis of recognised speech. Users must select their gender and age group and then record a particular vowel with a good-quality microphone connected to a PC or laptop running Windows 7 to 10. The software has not yet been tested on Windows 11 at the time of writing. An example of visual feedback for /u/ is presented in figure 4.

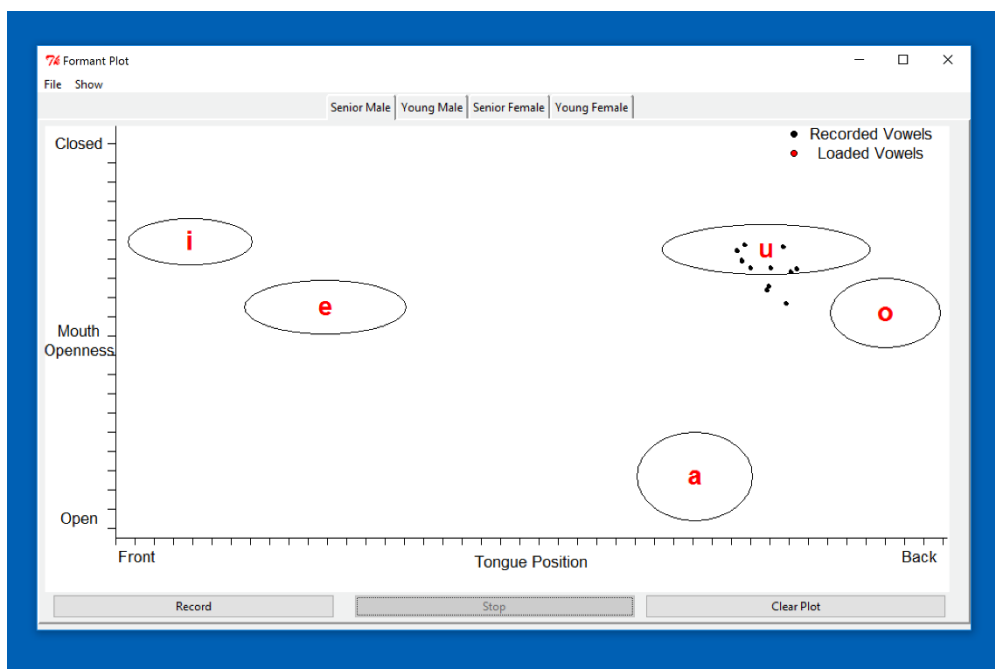


Figure 4. MP*Ai* formant screen plot for user producing /u/ sound

Watson et al. (2017) report positive results from a small trial undertaken with 33 participants. The MP*Ai* team undertook a further trial in late 2019 (results still need to be published), which was also positive. The software has never been stable enough for the team to release the app publicly, and we lack the resources for ongoing maintenance. The software requires a high-quality microphone, and issues around the means to securely transfer and retain recorded audio data remain unsolved. In addition, learners are more likely to want to use this tool via a smartphone or tablet rather than being limited to a Windows-based app. The MP*Ai* team believes that there needs to be further research, especially more user evaluations, undertaken before advancing this project further. We are actively seeking funding to move this resource ahead.

There are many smartphone apps available for teaching Māori. The University of Auckland released *Te Kūaha* (The Entrance) app in 2020 (iOS, Android, Windows). It contains pronunciation models for Māori words, waiata (songs), and karakia (prayers/incantations). The app provides information on basic greetings, introducing yourself, introductory speeches and Māori protocols. Users can record their pronunciations; however, the app does not provide any feedback on pronunciation. Information on updates or user feedback is unavailable at the time of writing. The most promising Māori language pronunciation app available from July 2022

onwards is [Rongo](#) by [Te Hiku Media](#), a Far North-based iwi radio station making significant contributions to the development of iwi radio, Māori speech tools, and Māori data sovereignty (Te Reo Irirangi o Te Hiku o Te Ika 2024). Rongo uses a machine-learning model to give users real-time, on-device feedback on their pronunciation while working through 24 lessons that introduce new sounds and build in complexity. It starts with vowel sounds before moving on to diphthongs, digraphs, and polysyllabic vowel clusters. While Rongo was not specifically designed as a language learning app, the lessons provide a range of structures and vocabulary that Māori language learners and speakers will find useful. To my knowledge, there have not been any formal evaluations of Rongo.

5.2 *Further Māori pronunciation resources*

Learners of Māori would benefit from research-based pronunciation resources. As of 2023, there is no Māori phonetic dictionary available online. A web-based prototype has been developed (Coppard & Joe 2022), and it would not be difficult to add phonetic transcriptions to an existing online dictionary such as *Te Aka Māori* dictionary. MAONZE researchers are seeking funding to continue developing the MPai pronunciation tool mentioned earlier in this paper. Te Hiku Media and other organisations continue developing learner apps for smartphones and tablets. Such developments would benefit from rigorous evaluations. There is a desperate need for research-based Māori language pronunciation resources. Online resources providing better descriptions of NZE would also be useful for many Māori learners, as will be discussed in the next section, from a pedagogical perspective.

6 **My approach to teaching Māori pronunciation**

Teaching the pronunciation of Māori often involves fluent Māori speakers modelling pronunciation and focusing on Māori words, especially proper nouns that are frequently mispronounced. As an experienced lecturer and active researcher working in this space, my view is that understanding NZE's sound system and the articulatory processes involved in speech production is essential for the successful teaching of Māori pronunciation. This knowledge would allow teachers to go beyond correctly identifying mispronounced Māori words, to advise students on what to do, i.e. in terms of articulatory gestures of the tongue/jaw and lips, to improve their pronunciation of Māori words.

I teach Māori pronunciation to initial teacher education students at the Faculty of Education and Social Work, Waipapa Taumata Rau, the University of Auckland. In New Zealand, compulsory school sector teachers are registered by the Teaching Council of Aotearoa/New Zealand. Teachers are now required to know about the Treaty of Waitangi, tikanga Māori (Māori cultural principles and practices) and to have some understanding of te reo Māori (Māori language). They are expected to pronounce Māori proper nouns correctly. My observations indicate that students with Māori names no longer tolerate teachers mispronouncing them and expect other Māori words to be pronounced correctly.

During a two-hour teaching session with 30 to 300 students, I outline MAONZE research indicating that Māori vowel quality and quantity have changed significantly over time (i.e. between generations) and describing variations in Māori consonant production. I also point out how individual speech production changes over one's lifetime due to aging effects such as vocal tract shrinking and other physiological changes. Students are advised that Māori mispronunciations can be improved via effective feedback on their efforts. They are also informed that many teachers of Māori lack an understanding of the articulatory processes

involved in speech production and are often unable to provide precise advice as to what is required to improve pronunciation.

I then carefully describe articulators used for speech (using visualisations) and how vowel production depends on tongue position, jaw openness and lip position. I show speech spectrograms, indicating how the first two formant values of vowels can be plotted to indicate tongue position (see Figure 2 above). Students are then required to produce different vowels to gain further awareness of the operation of their articulators. I usually start with students producing <i> and <a>, and ask them to describe their jaw and tongue positions when producing these vowels. Animations of the [Seeing Speech](#) website (Lawson et al. 2018) are played to clarify the articulators involved in vowel production. I then give illustrations of my vowel production in both Māori and NZE. If Pasifika students are present in my class, I often ask for volunteers who speak Samoan, Tongan and other Polynesian languages such as Niuean and Tokelauan. They are invited, along with a Māori speaker, to come in front of the class and pronounce <i>, <e>, <a>, <o>, <u>. The class is told that one of these vowels is pronounced quite differently in Māori from the other Polynesian languages, and they must identify that vowel. Students generally correctly identify that <u> differs in Māori, being somewhat fronted (as in NZE) compared to other Polynesian languages.

I carefully describe the difference between vowel sequences and diphthongs in Māori and NZE. Māori has many more diphthongs than NZE. Some words such as <koe> ‘you, second person singular’ is generally pronounced as a diphthong [kōē], but sometimes is pronounced as a sequence [ko.e] by older Māori when used in the phrase <tēnā koe> ‘formal greeting to one person’. I outline that in my experience, many NZE speakers find the Māori <au> diphthong troublesome. My advice is to regard this as a new sound to be learnt and practise it as an individual sound before graduating on to words such as <maunga> ‘mountain, hill’, which needs to be pronounced as two clear syllables [maū.ŋa]. I usually request students produce minimal pairs in commonly used words such as *pai* ‘good’ and *pae* ‘to cast ashore, grounded’; *tau* ‘year, age’ and *tou* ‘posterior, tail (of a bird)’. Also, they must distinguish between long and short diphthongs, e.g. *Māu.i* ‘mythical character’ and *mau.i* ‘left hand, left side’; *tāu.a* ‘pronoun, first person dual’ and *tau.a* ‘that previously mentioned, war party’.

After vowels, I describe Māori consonants and explain phonetic symbols (i.e. the International Phonetic Alphabet (IPA) advocated by the [International Phonetic Association](#) n.d.). NZE speakers often struggle with the syllable initial velar nasal /ŋ/, represented in Māori by the digraph <ng>. The <wh> consonant in Māori (generally a labiodental fricative /f/, with some regional variation) is well described in Maclagan and King (2002), an important paper that seems little known in the Māori speaking world. I advise learners to use the labiodental fricative /f/, the most common variant. The other consonant that confuses Māori learners and teachers is /r/; see Shields et al. (2024, in this volume pp.105-131). I advise students that the flap/tap [ɾ] is the most attested variant and should be used especially within the environment of /(a).ra/. The final aspect of Māori consonants worth informing learners about is that the current high aspiration of Māori plosives (stops) is a relatively recent phenomenon (Maclagan & King 2007; Maclagan et al. 2009). Students are instructed to put a hand in front of their mouth and feel the puff produced with an aspirated /p/ such as /pit/, but minimalised or absent with the unaspirated stop /spit/.

Phonemes combine to form syllables, which are then combined to form words. As Māori is an open syllable language without consonant clusters, syllable formation is straightforward to teach. When explaining word formation in Māori, I carefully outline how all Māori lexical items must contain one stressed syllable. General word stress assignment in Māori is well covered by Biggs (1973). However, phrase stress in Māori and its interaction or relationship with word stress is an area that requires further acoustic research. Biggs’s stress

rules are reasonably straightforward, but I have found that students would rather see examples of the word stress applied. I would typically do this by bolding the stressed syllable(s) in lexical items (see Figure 5 below). Once students have grasped Māori syllable structure and stress assignment, I spend the remainder of the lecture time looking at Māori words that are commonly mispronounced (especially proper nouns), carefully explaining that mispronunciations are often the result of an absence of an equivalent sound in NZE (e.g. the final /e/ sound does not occur in NZE, so, therefore, [ˈhi.ne] ‘girl’ is often heard as [hi.ˈnei]) and outlining what learners need to do (in articulatory terms) and referring to visualisations to assist learners in improving their pronunciation. For example, Whangaparāoa (a northern suburb of Auckland) is difficult for many students. I explain to students that this is a compound consisting of the word <whanga/> ‘bay, cove, bight, estuary, channel’ (can also be a verb ‘to wait’) and <parāoa> ‘sperm whale, whalebone’ or ‘bread, flour dough’ (i.e. a borrowing from English). The term <parāoa> contains the long diphthong [āo] (followed by a monophthong /a/), which also occurs in the word <Māori>. This long diphthong requires practice. The sequence /āoa/ is not a word in Māori, but <rāoa> ‘to choke, be choking’ exists. The next step is to master <rāoa> (stressing the long diphthong) and then add the preceding syllable to get <parāoa>. Finally, students produce the compound <Whangaparāoa>, but with a clear pause or break between <whanga> (first syllable stressed) and <parāoa> (long diphthong stressed).

Depending on the audience and their origins, I may discuss how NZE vowel production varies from Australian English (Cox & Fletcher 2017) and other varieties of English; for example, most New Zealanders are aware of a difference between the vowel used in ‘fish and chips’ in Australia and New Zealand. Although both have a ‘kit’ vowel, New Zealanders perceive the Australian realisations as being closer to a New Zealand ‘fleece’ vowel.

I often conclude my lecture by noting seemingly complicated Māori place names, such as that shown in Figure 5:

*TaumatawhakatangiHangakoauauoTamateaturipūkakapikimaungahoronuk
upōkaiwhenuakitanatahu*

‘The brow of the hill where Tamatea, the great traveller, sat and made music on the flute to his beloved’ can be readily parsed to;

***Tau**.ma.ta **wha**.ka.ta.ngi.**ha**.nga kō.au.au o **Ta**.ma.tea tu.ri **pū**.ka.ka **pi**.ki
mau.nga **ho**.ro **nu**.ku **pō**.kai **whē**.nua ki **ta**.na **ta**.hu*

(. = syllable break, bold = stressed syllable)

Figure 5. Parse of longest Māori place name in Aotearoa/New Zealand as presented to students

In other words, once parsed, many Māori compounds are relatively straightforward to pronounce. In my experience, pronouncing them slowly, carefully and accurately is much appreciated by a Māori speaking audience. I conclude these sessions by answering student questions on pronunciation or te reo Māori in general.

Student feedback on these teaching sessions has been positive to date. Feedback has been in the form of unsolicited comments made after class and students approaching at later dates telling me how much they enjoyed the lecture. My colleagues in Te Puna Wānanga (School of Māori and Indigenous Education) have also observed my teaching to provide further feedback. They reported that they learned a lot from their observation, and enjoyed the lecture

format and content. As this is a two-hour session of a series of guest lectures, I have not yet undertaken formal student evaluations, although these are planned in the future.

My teaching experience suggests that a good grasp of articulatory phonetics and knowledge of the phonetics of both English and Māori helps teach the pronunciation of Māori language. I am fortunate to have robust data on my Māori and NZE pronunciation. A future challenge is to provide improved visualisations and presentation materials to better support student understanding.

7 Linguistics and the Māori speaking community

There is a disconnect or a large gap between (academic) “linguists” and the Māori speaking community. Prominent Māori leaders, including the late Sir Patrick (Patu) Hohepa, Sir Tamati Reedy and Sir Pita Sharples, completed PhDs in linguistics. However, few Māori have been appointed to linguistic positions in universities or continue undertaking Māori linguistic research beyond their PhDs, although some linguistic graduates may join Māori studies or work in education faculties. While the number of Māori completing linguistic qualifications has increased in recent years, there are few opportunities to continue such research in New Zealand or Australian universities. Opportunities are decreasing as universities respond to ongoing funding shortages by cancelling or severely reducing arts courses, including linguistics. The Linguistic Society of New Zealand’s recent *Open letter: Maintaining linguistics programmes at universities in Aotearoa, New Zealand* (Linguistic Society of New Zealand Executive Committee 2023) correctly highlights the contribution of linguistics to Māori language revitalisation.

Linguists working on Māori can improve dissemination by publishing in open-access journals and books that can be accessed online. An increasing number of journals allow publication in the medium of Māori, and more conferences will permit presentation in Māori. Auckland University of Technology runs a biennial conference, *Te Puna o te Kī*, in which Māori is the only permitted language. This conference is a very supportive environment and highly supportive of Māori language learners. The 2023 New Zealand Language and Society Conference included a one-day pre-conference Māori Language Research Symposium open to all interested and invited presentations in te reo Māori and English.

Finally, my own experiences suggest that some Māori speakers, leaders and academics in the Māori language revitalisation movement seem to have what I term an irrational distrust or an ideological opposition towards anything linguistic or anyone (including anyone Māori) who has had linguistic training. I suspect that for some, the opposition extends beyond linguistics to any Western-based science, i.e. knowledge that does not derive from an Indigenous methodological framework or an Indigenous worldview. This opposition to “linguistics” amongst some Indigenous communities stems from negative experiences with linguists and other researchers and blatant cultural/Indigenous property theft and destruction (Smith 2021). Ethics, research collaborations and dissemination are now actively discussed in Indigenous data sovereignty organisations such as [Te Mana Raraunga](#) (Māori Data Sovereignty Network). Te Hiku Media (previously mentioned) is an excellent example of an organisation that practises Māori data sovereignty and involves the collaboration of non-Māori team members.

8 Conclusion

In this paper, I have outlined my efforts to teach Māori language pronunciation to initial teacher education students at the Faculty of Education and Social Work, Waipapa Taumata Rau,

University of Auckland. I described a linguistics-based approach to teaching pronunciation that has been informed by research in general, including ongoing analyses of my pronunciation, which are both rewarding, intriguing, and an excellent motivation for reflecting on and improving my knowledge of speech production. Teaching pronunciation is important, but hampered by incorrect descriptions of Māori phonology/phonetics in the literature and online. I argue that linguistics is integral to teaching pronunciation and can make a wider contribution to Māori language revitalisation. However, the discipline of linguistics is not without ideological opposition amongst Māori speakers. Further research on Māori language and NZE is required, along with research-based resources for adult learners of Māori. In this context, it is very encouraging to see a cohort of younger Māori and non-Māori researchers emerging and contributing to the discipline of linguistics.

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