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Any Time, Any Place, Flexible Pace: Technology-Enhanced Language Learning in a Teacher Education Programme

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Abstract: Ongoing developments in e-learning, improved internet accessibility and increased digital citizenry provide exciting opportunities to integrate effective classroom pedagogies with online educational technologies, creating mixed-mode courses to enhance student engagement and facilitate greater autonomous learning. This research examines pre-service teacher education students' perceptions of the effectiveness of experiential and digitally-mediated tools which take them beyond the constraints of traditional lecture-type delivery. Quantitative and qualitative results from distance and face-to-face cohorts show the value the students ascribe to tools employed in a modified language course. These are discussed in relation to reported changes in students' proficiency in the target language and culture, and their teaching confidence, using principles for effective instructed language learning as an interpretive lens. The data provide valuable insights into features that enhanced the students' digitally-mediated learning experiences in this blended delivery course, including the impact of when, where and how they could engage with course material.

Introduction

The availability of new technologies has revolutionised praxis in thousands of classrooms across all educational sectors, and the increasing availability of internet connectivity around the world now allows for flexible and accessible modes of learning for many people who have previously been excluded from educational opportunities due to timing, cost, geographical location, or sociocultural issues such as gender and ethnicity (see, for example, Farrell & Wachholz, 2003; Valk, Rachid, & Elder, 2010; Winthrop & Smith, 2012).

More recent development of portable technologies such as tablets and smartphones has further increased possibilities for students to access learning materials and engage in learning activities at any time, from wherever they happen to be, and at whatever pace suits them at the time. Distance learners are now able to view classes in real-time via live-streaming facilities, 'attend' and interact with their physically-present classmates via Web-conferencing platforms, and engage with each other either synchronously or asynchronously in a variety of ways that have not been possible before.

Early research indicated that, used appropriately, technology-enhanced education can impact positively on what students learn, how quickly they learn, and their attitudes to learning (Kulik, 1994, 2003; Schacter & Fagnano, 1999). Early studies also suggested that

digitally-mediated activities can result in ‘increased motivation, a deeper understanding of concepts, and an increased willingness to tackle difficult questions’ (Roschelle, Pea, Hoadley, Gordin, & Means, 2001, p. 81). Although other reports indicate that use of technology in some educational contexts has little or no positive impact on student outcomes (e.g. Caulfield, 2011; Norris, Sullivan, Poirot & Soloway, 2014), recent research shows use of new technologies may enhance content mastery (Cennamo, Ross, & Ertmer, 2014), impact positively on student behaviour and self-confidence (Lai & Kritsonis, 2006; Lavin, Korte, & Davies, 2011), and facilitate increased learner autonomy (Fuchs, Hauck, & Müller-Hartmann, 2012; Hafner & Miller, 2011). It is findings such as these that continue to stimulate educators across all curriculum areas to explore how technology can be used to increase learning opportunities and outcomes.

Language teachers who were early adopters of computers as tools for language learning have been similarly eager to explore the educational affordances of more recent devices (see, for example, Belanger, 2005; Levy & Kennedy, 2005; Thornton & Houser, 2005; Zhao, 2005). Many language teacher educators have responded to this growing interest by including the use of new technologies within language teacher education programmes.

As developments in the digital arena continue to open doors to new and exciting possibilities for ‘un-tethered learning’ (Franklin, 2011, p. 262), it has become increasingly vital that technology-enhanced aspects of language programmes are evaluated regularly, along with any more conventional teaching tools that are used, to ensure rigorous pedagogical reasoning underpins decisions about their use.

In this study, pre-service teacher education students’ perceptions of a range of traditional, experiential and digitally-mediated tools are examined as part of an evaluation to inform further developments in a course for learning and teaching te reo Māori, the indigenous language of New Zealand. In order to contextualise the research, a brief account is first given of the history and ecology of te reo Māori, followed by a description of the instructional setting and key tools utilised in the course.

Contextualising the Research

The New Zealand Setting

English has been the dominant language in public and educational domains in New Zealand since very soon after British colonisation in the mid-nineteenth century. Following colonisation, the use of the indigenous language was actively discouraged in many quarters, including being effectively banned in schools at the start of the twentieth century (Edwards, 1990). In the decades that followed, punitive measures against those who spoke te reo Māori, along with increasing opportunities for those who spoke English, led to a rapid decline in use of the indigenous language. Use of te reo Māori decreased even further after World War Two, when large numbers of Māori people moved to cities for better employment opportunities (Pool, 1991; Walker, 2004).

Intergenerational transmission of te reo Māori continued to decline until, by the late 1970s, the cohort of native speakers had diminished to such an extent that the language was in danger of extinction. This prompted a number of grass-roots initiatives, primarily driven by Māori people themselves, to halt and reverse the decline (Ministry of Education, 2013b; Te Puni Kōkiri, 1999). Revitalisation efforts, such as pre-school and school immersion programmes, gained legislative support in 1987 when the passing of an Act of Parliament

made te reo Māori New Zealand's first official language.¹ However, despite increases in the use of te reo Māori since the Act was passed, attitudes of non-Māori people about using te reo Māori remain mixed (Boyce, 2005; de Bres, 2011; Stewart, 2014), and the population as a whole remains largely disinterested in learning any language other than English (East, 2008). Recent reports signal that te reo Māori is still very much at risk (Te Puni Kōkiri, 2008, 2011; Waitangi Tribunal, 2011).

It is within this context that pre-service teacher education programmes in New Zealand have a critical role to play by ensuring all new teachers have the skills and attitudes to support revitalisation of the indigenous language. Knowledge, and appropriate use, of te reo Māori and Māori culture are specified in the *Graduating Teacher Standards* (Education Council, 2015), and are promoted in Ministry of Education policy and strategy documents (e.g. Ministry of Education, 2013a, 2013b). Most programmes for primary teachers in New Zealand now include compulsory courses in which teachers-to-be begin to learn te reo Māori and, in some programmes, how to teach te reo Māori. This research examines changes in one such mandatory course embedded in a graduate teacher education programme offered by a New Zealand university.

The Instructional Context

The course examined in this study comprised three distinct components, each taught by a different lecturer. The Māori component (learning te reo Māori, Māori culture and teaching strategies) accounted for 50% of course delivery time and assessment weighting; Social Studies 25%; and Languages (including English as an Additional Language, New Zealand Sign Language, and community and international languages) 25%. The first author was the lecturer for the Languages component. Only the Māori component of the course was examined in this study.

In the past, the Māori part of the course was delivered to on-campus students through lectures and workshops. The distance students attended a half-day residential session and completed the rest of the course via printed study guides with supporting resources. When the university introduced an online learning management system, the lecturer capitalised on students' increasing interest in digital technologies and progressively redesigned the course to provide both cohorts with access to a greater variety of learning experiences and to provide greater equity for students in the distance cohort.

Principle-Driven Blended Learning

The course examined in this study falls within the broad parameters of Computer Assisted Language Learning, described by Egbert (2005) as "using computers to support language teaching and learning" (p. 3). The specific type of delivery used for the course has been variously referred to in the literature as hybrid learning, combined learning, blended learning, and multi-mode learning, with a large degree of overlap (as well as departure) between different theorists in relation to the notions encompassed within each of these terms (Caulfield, 2011; Gruba & Hinkelman, 2012; Snart, 2010; Thomas, 2009). For the purposes of this study, we utilise the term blended learning, and operationalise this according to Bersin's (2004) description as "the combination of different training media (technologies,

¹ New Zealand has three official languages: te reo Māori and New Zealand Sign Language gained de jure official language status with the Māori Language Act 1987 (1987) and the New Zealand Sign Language Act 2006 (2006); English has de facto official language status due to its widespread use.

activities, and types of events) to create an optimum training program for a specific audience” (p. xv). This characterisation takes account of the different elements of the course being examined, including the face-to-face sessions for both cohorts of students, technology-mediated learning, and experiential components.

The lecturer drew on instructed second language acquisition theory and research when determining which specific tools to include in the blended course. In particular, a more communicative approach (Richards, 2006) was sought, with the aim of developing learners’ communicative competence and confidence more than the earlier form-focussed course had achieved. A set of ten principles proposed by Ellis (2005) informed the pedagogical considerations. These principles address the nature of competence in second (and subsequent) languages, and provide a robust platform for planning and implementation of effective language programmes. The lecturer’s desire to provide avenues within the course for a focus on both form and meaning, and the wish for greater student exposure to target language input and opportunities for output all align strongly with Ellis’s principles. Similarly, the principles supported the lecturer’s quest to cater more for individual learning preferences by providing a variety of ways for students to engage with the course. Table 1 presents a summary of the principles.

	Principles
Principle 1	Instruction needs to ensure that learners develop both a rich repertoire of formulaic expressions and a rule-based competence.
Principle 2	Instruction needs to ensure that learners focus predominantly on meaning.
Principle 3	Instruction needs to ensure that learners also focus on form.
Principle 4	Instruction needs to be predominantly directed at developing implicit knowledge of the L2 while not neglecting explicit knowledge.
Principle 5	Instruction needs to take into account learners’ ‘built-in syllabus’.
Principle 6	Successful instructed language learning requires extensive L2 input.
Principle 7	Successful instructed language learning also requires opportunities for output.
Principle 8	The opportunity to interact in the L2 is central to developing L2 proficiency.
Principle 9	Instruction needs to take account of individual differences in learners.
Principle 10	In assessing learners’ L2 proficiency, it is important to examine free as well as controlled production.

Table 1: Ellis’s (2005) Principles for instructed second language (L2) acquisition

The Revised Course

A number of tools were included in the updated course to maximise what could be achieved within the limited course time and to facilitate students’ ongoing independent learning beyond the classroom and into the future. In addition to consideration of pedagogy for effective language acquisition, a number of potentially constraining factors, such as broadband accessibility and performance, available time (for both the lecturer and students), and institutional resourcing, also had a bearing on which of the many possible tools were utilised.

The revised course included lectures and workshops traditionally associated with language learning at university level, in- and out-of-class experiences of Māori customs and protocols, as well as online exercises, discussion forums, teacher-generated digital resources, and commercial vocabulary learning software. The eight key tools included in the blended course and examined in this study are described in Table 2.

Tool	Description
Moodle	A digital learning management platform. Allowed staff and students secure anytime, anywhere access to resources and tools. Contained the course overview, instructions, readings, supporting material for lectures and workshops, and was a central portal to other key tools.
Lectures	Seven one-hour face-to-face lectures for on-campus students; once per week. These are videoed for distance students to access asynchronously via link on Moodle. Content included the history of te reo Māori, benefits of bilingualism, planning and programme design.
Workshops	Seven two-hour workshops with on-campus students (half in each workshop); once per week. Communicative language activities and Māori customs and protocols are modelled, taught and practised. These are manually videoed for distance students to capture up close what lecturer and students are doing and saying, and accessed via Moodle.
Noho Marae	Full day and overnight stay on marae (a communal area of central importance to Māori people where events such as meetings, funerals and family gatherings are held). Students follow Māori protocols, learn about Māori culture, and practise te reo Māori.
Forums	Sites within Moodle for discussions and questions about te reo Māori (grammar, vocabulary, pronunciation, appropriateness), and for students to seek clarification about the course structure and assignment work. Students are also required to share understandings and debate aspects of Māori culture and protocols in compulsory forum tasks.
Ākona te Reo	A lecturer-created site accessed via Moodle containing modules with study guides, exercises, te reo Māori ‘teacher phrases’, and resources to augment and reinforce language and culture lessons in the lectures and workshops.
Pātaka Reo	A less structured site accessed via Moodle which acts as a repository for a range of te reo Māori and Māori culture resources, lesson plans, and links to web sites supporting Māori teaching and learning. Pātaka literally means a ‘store house’.
Language Perfect	A commercial Web-based language learning tool with ‘banks’ of topic-specific vocabulary and common phrases, and provision for teacher-customisable content. Students access these via their own devices for self-study and homework tasks, revisiting the content at spaced intervals, and testing their visual and aural word recognition, understanding and spelling.

Table 2: Key tools used in the Māori component of the course

The Study

This study elicited data in relation to students’ perceptions of the affordances and constraints of the key tools utilised in the revised teacher education course just described. The single site case study was driven by the following research questions:

- (1) How do pre-service teachers perceive the helpfulness of each tool for increasing their proficiency and knowledge of te reo Māori and Māori culture? [proficiency]
- (2) How do pre-service teachers perceive the helpfulness of each tool for increasing their confidence and competence to teach te reo Māori and Māori culture? [teaching readiness]

For reporting purposes, students’ reported proficiency and knowledge of Māori language and tikanga are referred to as ‘proficiency’, and their reported confidence and competence to teach Māori language and tikanga are referred to as ‘teaching readiness’.

Data Collection

A Web-based questionnaire was utilised to collect quantitative and qualitative data. In selecting survey methodology, consideration was given to the perception of greater anonymity and increased possibilities for privacy associated with electronic surveys, which are reported to increase the validity of findings by reducing the likelihood of response bias and increasing openness and accuracy in the data obtained (Dommeyer, Baum, & Hanna, 2002; Skitka & Sargis, 2006). Also, using questionnaires provided a means to gather standardised information as well as more extensive responses efficiently from two relatively large student cohorts, thereby avoiding issues that can arise with interview methodology around timing, access to participants, and consistency of questioning (Burns, 2000).

The questionnaire comprised fixed-choice questions, scales, and open-ended questions. To minimise possible constraining effects, most questions allowed respondents to specify alternative answers or to elaborate on their responses. The questionnaires were piloted with a parallel group of respondents to check for clarity of the instructions and questions. Validity was further enhanced by having a subject-matter expert assess the questions and response options that were provided, and by making the survey available to the full population of both student cohorts rather than a limited sample (Burns, 2000; Mackey & Gass, 2005). Any potential conflict of interest due to one of the researchers also lecturing another component of the course was mitigated by conducting the survey after the course results had been finalised.

Participants

All on-campus students (n=70) and distance students (n=60) enrolled in the course were invited to participate in the study. They were informed of the purpose and process of the research by e-mail four weeks after the course finished, and invited to log onto a secure site to access the survey. Responses to the questionnaire were submitted by 83 students (64%); however two respondents completed only two questions and provided no demographic information; data from these two were not included in the analysis.

Of the 81 students who provided demographic data, 20% (16) were male and 80% (65) were female. Forty-eight percent (39) of respondents were under 30 years of age and 52% (42) were 30 years or older. Fifty-three percent (43) of respondents were enrolled in the distance occurrence of the course and 47% (38) were studying on-campus. Examination of the participant characteristics revealed the respondents were representative of the total population of enrollees in the course by gender and by mode of study (data on the age of non-respondents were not available for comparison).

Data Coding and Analysis

Data from the questionnaire were transferred to a spreadsheet using numeric codes for fixed response items and full text for the qualitative data. Because each of the demographic variables were categorised into two groups (male/female, younger/older, and on-campus/distance), t-tests for independent means were used to identify significant differences in quantitative ratings between the two groups for each variable. T-tests for independent means were also used to compare ratings on proficiency with ratings on teaching readiness (Mackey & Gass, 2005). NVivo was used to facilitate management, coding and systematic comparison of the participants' qualitative responses. Potential issues related to inter-coder reliability were addressed by having one researcher primarily responsible for coding after a

joint examination of the data was conducted to identify and categorise emerging themes. The evaluations of the principal coder were checked for consistency and interpretation by co-researchers. Ellis's (2005) research-based principles for effective instructed second language acquisition (see Table 1) were used as a theoretical framework to examine the results.

Results

To determine their perceived helpfulness, students were asked to indicate their level of agreement with the following statements for each of the eight key tools utilised in the course:

- (1) [Tool] helped me increase my proficiency and knowledge of Māori language and tikanga (customs and protocols). [proficiency]
- (2) [Tool] helped me increase my confidence and competence to teach Māori language and tikanga. [teaching readiness]

This was done using a scale of 1 (*strongly disagree*), 2, (*disagree*), 3 (*agree*), and 4 (*strongly agree*).

As seen in Table 3, students perceived that each tool in the revised course contributed towards gains made in (a) proficiency, and (b) teaching readiness. A close analysis of Table 3 also shows that each tool 'ranked' in exactly the same position in respect of both these goals; e.g. Moodle, which ranked fifth for helpfulness in increasing students' proficiency in te reo Māori and tikanga, also ranked fifth for helping with teaching readiness.

Tool	Overall Rank	Proficiency		Teaching Readiness	
		M	SD	M	SD
Language Perfect	1	3.62	0.62	3.35	0.66
Noho Marae	2	3.32	0.74	3.31	0.63
Ākora te Reo	3	3.24	0.67	3.32	0.65
Workshops	4	3.16	0.79	3.06	0.79
Moodle	5	3.03	0.56	3.00	0.59
Pātaka Reo	6	2.89	0.68	2.89	0.53
Lectures	7	2.83	0.79	2.72	0.71
Forums	8	2.66	0.76	2.54	0.71

Table 3: Students' perceptions of the helpfulness of the tools

In addition to the scales for the helpfulness of each tool, space was provided in the questionnaire for comments related to the tools and the ratings given. Further questions asked students to explain anything that limited or hindered their learning, what were the most helpful things for their learning, and suggestions for improvements. This qualitative data is now drawn on, in addition to the quantitative findings, to discuss each of the tools in order of reported helpfulness.

Language Perfect

Participants were significantly more likely to agree that Language Perfect had increased their personal te reo Māori and their Māori cultural proficiency than their confidence and teaching readiness ($t(162) = 2.42, p < .05$). Since Language Perfect is primarily a vocabulary learning tool, this result is not surprising. However, despite this, the

Web-based tool was still rated as the most helpful of all eight tools investigated for increasing the students' personal proficiency *and* for increasing their teaching readiness. All but one respondent reported they would use Language Perfect with their own students in their future primary school classes. The qualitative data provide valuable insights into why Language Perfect was perceived so positively.

Students reported that the software was easy to use, with a straightforward, intuitive layout. They appreciated being able to listen to a word in the target language and then input the English translation, as well as being able to work from English back to te reo Māori. Being able to hear the vocabulary pronounced correctly and repeatedly was reported to be a particularly helpful feature. The interactive nature of Language Perfect was also highly valued, especially as it involved so many of the senses. As one respondent explained, 'It engaged my ears, eyes, and fingers' (R#47).

Many students wrote about the helpfulness of the immediate feedback they got from Language Perfect, either affirming their correct use of words, or providing corrections if errors were made. One student noted, 'the summaries at the end of lists were really useful in letting me know which aspects I needed to focus on more' (R#23). The competitive aspect of Language Perfect also functioned as a motivator, with some students enjoying competing with themselves to improve their previous scores, and also competing against classmates and flatmates. Some respondents claimed this made the software 'addictive', resulting in them spending more time on language learning than they had intended.

Students also made frequent mention of the self-paced nature of Language Perfect. Many liked that they could choose when, where, what, and for how long they studied. They liked that the tool was 'immediately accessible' (R#32), that they were 'able to work at it again and again' (R#77), and could do frequent 'short, intense, concentrated bursts' (R#11). They also appreciated that the 'settings can be adjusted to suit the amount of time you have available' (R#54).

In addition to reportedly increasing students' independent language study, Language Perfect was credited with increasing many students' interest in language learning, and also increasing their success; 'it made the words stick' (R#12) was a common refrain. However, the qualitative data also revealed learners' awareness that learning words in isolation did not mean they would always know how they fitted into a sentence or whether they would be appropriate in particular contexts. Suggestions were made for the software to include phrases and sentences, to provide contexts for the words, and to allow for alternative translations in some instances.

Noho Marae

During the overnight noho marae (literally 'stay on a marae'), the students observed and participated in traditional activities, thereby gaining insights into Māori history and protocols, learning and using te reo Māori, and becoming aware of the preparation and considerations necessary to take their own classes to visit a marae in the future. The noho marae rated as the second most helpful tool for increasing students' personal te reo Māori and Māori cultural proficiency *and* for increasing their teaching readiness.

There were statistically significant differences in the degree of helpfulness attributed to the noho marae for teaching readiness. Younger students ($t(67) = 2.49, p < .05$), and on-campus students rated the experience as more helpful than distance students ($t(67) = 2.03, p < .05$). This could be attributed, in part, to increased opportunities for exposure to Māori language and culture based on age and location. However, further investigation is needed to better understand

these differences. The qualitative data supports the value of the noho marae in relation to both personal proficiency and teaching readiness for both groups. One student echoed the sentiment of many when she reported that the experiences on the marae had 'really put a lot of things into perspective' (R#65). Others described the marae as a 'great place to use the language in context' (R#72).

Ākona te Reo

Ākona te Reo (literally 'learner/teacher of language') is an independent course with discrete modules that are linked to a number of teacher education courses offered by the university. Each of the seven lectures in the course in this study was associated with a module on the Ākona te Reo site. The first section in each module has songs and blessings (because it is Māori protocol to begin and end each class with these), plus teaching-related idioms and proverbs. The second section has PowerPoints and study guides with supporting sound files covering grammar and pronunciation. The final section in each module houses additional resources.

Ākona te Reo rated as the third most helpful tool for increasing students' personal te reo Māori proficiency and for increasing their ability to teach te reo Māori and Māori culture. There were statistically significant differences in relation to each of these goals. Female students found the site more helpful for proficiency than male students ($t(68) = 2.50, p < .05$), and distance students found it more helpful than those studying on-campus ($t(68) = 4.06, p < .05$ for proficiency; $t(70) = 4.05, p < .05$ for teaching readiness). For distance students, it is possible that Ākona te Reo provided a reassuring structure for practising the language that on-campus students achieved in other ways.

These findings were supported by the qualitative data. All fifteen students who commented specifically about Ākona te Reo being the most helpful or one of the most helpful tools were in the distance cohort. For some, the 'worksheets were the most helpful' (R#74); for another 'the PowerPoints worked best' (R#35). One student explained further that this was because the PowerPoints 'explained grammar points in detail' (R#3). Another participant wrote that 'the sound files recorded by the lecturer to accompany the content in the Ākona te Reo site were also excellent' (R#62).

Students reported that it was helpful to be able to access material on the Ākona te Reo site whenever it suited them, and they liked being able to work through the exercises at their own pace. Some suggested that a mechanism be provided for getting help and feedback as they worked through the exercises.

Workshops

Resourcing and broadband challenges made it difficult to give the distance students virtual synchronous access to the on-campus workshops, so the workshops were instead video-recorded for them to watch later. This decision was not based on prior research, but rather was an attempt to provide students who could not be physically present with the opportunity to see communicative language teaching activities and Māori tikanga being integrated within an authentic classroom context. The weekly workshops rated fourth overall in helpfulness for increasing the respondents' personal proficiency and their teaching readiness. Although there was not a significant difference between on-campus and distance students in the quantitative data, the qualitative comments revealed much higher levels of satisfaction with the workshops within the on-campus cohort.

Many on-campus students reported that the lecturer's use of te reo Māori for instructions and organisation during the workshops provided helpful exposure to the new language in a meaningful context. Combined with opportunities for interaction in te reo Māori during the activities and games, this 'cemented' (R#51) what some students had learned in the lectures. On-campus respondents also commented on the benefits of experiencing Māori culture and protocols in the workshops. In addition, some reported they made connections between their experiences as learners and their role as teachers, noting how activities could be implemented or adapted when they had their own classes in the future.

The on-campus students' positive feedback about the workshops contrasted markedly with qualitative data from distance students. Some distance students reported that watching the recorded workshops was 'time-consuming' (R#14) and 'frustrating' (R#11), particularly when on-campus students did activities for extended periods or when activities were not satisfactorily captured in the videos. However, some students reported that the control they had over the pace of the workshops was useful, as they could fast-forward in places if they already felt competent with the language being practised.

For some distance learners, the workshop experience reinforced the importance of interaction for language learning. One student wrote, 'Learning as a distance student is not the best way to learn a new language. I felt I missed out on a lot of the essential speaking practice.' (R#3). Some addressed this issue by pairing up regularly to practise with another student in their region, or by forming physical or virtual study groups; 'this really helped pronunciation' (R#14). Several students recommended that alternative activities be provided that they 'can do at home [instead of] the workshop rather than watching others do things' (R#60).

Moodle

In addition to providing guidance on the course structure (what to do and by when), the Moodle site contained readings and resources to support the weekly lectures and workshops. It also had links to grammar sites and an online dictionary, and acted as a conduit to tools such as Ākona te Reo, Pātaka Reo and the forums. In many respects, it functioned as the 'glue' for the overall course.

Moodle rated as the fifth most helpful tool for increasing students' personal te reo Māori proficiency and for increasing their ability to teach te reo Māori and Māori culture. Students valued the autonomy made possible by the any-time access they had to Moodle, but some found the volume of information available on the site initially 'overwhelming' (R#64) and stressed the critical importance of good organisation and instructional design.

Pātaka Reo

Pātaka Reo (literally a 'language store house') is similar to Ākona te Reo in that they were both created to be available to students in a number of teacher education courses. However, rather than being designed as a series of modules like Ākona te Reo, Pātaka Reo functions primarily as a repository for a large array of material that can be used for learning and teaching te reo Māori and Māori culture. It is a site students might go to find an appropriate Māori song for a specific occasion, or Māori myths and legends, or Māori games, for example.

Pātaka Reo ranked sixth overall in helpfulness for increasing the respondents' language and culture proficiency and their teaching readiness. As with Ākona te Reo,

distance students found Pātaka Reo significantly more helpful than on-campus students ($t(33) = 2.57, p < .05$ for proficiency; $t(33) = 3.51, p < .05$ for teaching readiness), although some students from both cohorts reported they ‘don’t know’ (R#12) or ‘cannot remember’ (R#78) what Pātaka Reo is. This may reflect the supplementary nature of the resources housed on the site.

Lectures

The weekly lectures rated seventh in helpfulness for increasing students’ personal te reo Māori proficiency and for increasing their ability to teach te reo Māori and Māori culture. The older age group (30+) rated lectures as more helpful than younger students ($t(79) = 2.72, p < .05$ for proficiency; $t(78) = 2.01, p < .05$ for teaching readiness), and distance students rated them more helpful than on-campus students ($t(79) = 5.47, p < .05$ for proficiency; $t(78) = 5.14, p < .05$ for teaching readiness). This result is interesting because distance students experienced the lectures asynchronously via video or audio recordings, rather than in person, yet still reported that they were helpful in increasing their language ability and teaching readiness.

The difference between the on-campus and distance cohorts in the quantitative findings was strongly reinforced by the qualitative data. Pace and timing were issues that were particularly salient for both groups. For some on-campus students, the fixed pace of the lectures was problematic, but not always for the same reasons. Some reported being ‘overwhelmed by the pace of delivery’ (R#10), while others found them too slow. Recommendations included having ‘fewer lectures’ (R#22), ‘shorter lectures’ (R#63), and to ‘scrap the lectures’ (R#44). However, these were mostly in the context of comments about the overall limitations on the time students could devote to this course due to concurrent demands from other courses. Suggestions made for alternative uses for lecture times included ‘more immersion-based activities’ (R#47), and ‘more workshops’ (R#22).

By comparison, distance students commented that the lectures ‘gave the course a human face’ (R#58), and ‘were very valuable for hearing the correct pronunciation of Māori words’ (R#7). The recordings provided distance students with ‘flexibility to watch and participate in the lectures when it suited’ (R#58). They also afforded students a measure of control over the pace of lectures that on-campus students did not have. Some distance students reported re-watching sections of the recorded lectures to fully capture the new ideas being presented, while another ‘downloaded them and watched them at double the speed’ (R#11).

Forums

Forums were rated as the least helpful of the tools investigated, although, as noted earlier, students reported that all eight tools in the revised course contributed towards gains made in their proficiency and teaching readiness. Statistically significant differences were found in the degree of helpfulness of the forums for each of these goals. Female students rated forums as more helpful than male students ($t(63) = 2.38, p < .05$ for proficiency; $t(61) = 3.10, p < .05$ for teaching readiness), and distance students rated them more helpful than the on-campus cohort ($t(63) = 2.57, p < .05$ for proficiency; $t(61) = 2.47, p < .05$ for teaching readiness). It is likely the latter finding is at least partially attributable to on-campus students having direct access to the lecturer immediately before and after lectures and workshops, plus at other times during the week.

There were very few additional comments made in relation to the forums. However, those who commented highlighted the importance of establishing good etiquette for forum postings to help ensure they remained safe, positive learning environments. Some also reported that rather than fostering a sense community across the two cohorts, the ‘forums often became confusing’ (R#71), and ‘unproductive’ (R#83). Each forum posting generated a separate e-mail to all students, and some felt the information gained from these did not warrant the intrusion in their inboxes. Webinars and other forms of regular interaction were suggested as alternatives for some of the functions the forums were intended to perform.

Discussion

The intent of this study was to explore the value ascribed by students to a range of teaching tools used in a blended delivery pre-service teacher education course. The findings discussed here relate to the perceptions of one cohort of on-campus and distance students concerning the helpfulness of the eight tools used to develop the students’ personal proficiency in te reo Māori and Māori culture, and prepare them to teach te reo Māori within primary school programmes. The specific context of this study makes it necessary for restraint to be exercised when readers assess the potential transferability of the findings of this study to other educational settings. Similarly, the self-report nature of the data and the focus on just eight tools also necessitate that readers exercise appropriate care if drawing generalisations from the findings.

Taking account of these limitations, an examination of the findings of this study indicates that the Māori language component of this pre-service teacher education course is positively impacting students’ progress. The quantitative results reported in Table 3 show that all eight tools impacted positively overall on the students’ personal proficiency in te reo Māori and Māori culture *and* their teaching readiness. The qualitative data reveal an awareness on the part of many respondents of some of the factors that facilitate (or otherwise) positive language learning experiences and outcomes. These findings are now discussed through the lens of Ellis’s (2005) principles for instructed second language acquisition (see Table 1).

Principles 1 and 3

Traditionally, second language instruction has focused primarily on grammar, with students learning rote-memorised rules and patterns but often failing to gain any degree of functional fluency in the target language (Brown, 1987; Batstone & Ellis, 2009). In Principles 1 and 3, Ellis (2005) endorses the need for rule-based competence, but also stresses the importance of formulaic expressions for early fluency. Students in this study similarly emphasised the value of opportunities to focus specifically and explicitly on grammar (Principle 3) via podcasts and exercises in Ākona te Reo, for example, as well as the importance of learning ‘chunks’ of language (Principle 1) in workshops and accessed via Pātaka Reo, for example.

However, many respondents paid even more attention to the value of quickly increasing their basic vocabulary knowledge, sometimes echoing Wilkins’s (1972) claim that ‘while without grammar very little can be conveyed, without vocabulary *nothing* can be conveyed’ (p. 111–112). Students’ increased vocabulary knowledge was frequently and enthusiastically attributed to Language Perfect, the commercial software used in the course. This online tool was also reported to be a strong contributor to increases in students’

motivation, independence and confidence. In the words of one respondent, 'Language Perfect was by far the most helpful [tool] to learn Te Reo, and helped me boost my confidence to go and teach it' (R#47).

Principles 2, 4, 6, 7 and 8

Nation (1994) points out that 'a rich vocabulary makes the skills of listening, speaking, reading, and writing easier to perform', but that 'learners' growth in vocabulary must be accompanied by opportunities to become fluent with that vocabulary' (p. viii). This aligns with communicative approaches to language teaching which place emphasis on learners gaining communicative competence. It also supports a number of Ellis's (2005) principles - particularly Principles 2 and 8 which stress the importance of learners focussing predominantly on meaning, and having opportunities for interaction in the target language. Many students agreed with Nation, making specific reference to the importance of contextualised usage in simulated settings (such as the workshops), as well as the benefit of being able to apply their new learning in authentic contexts (such as on the marae). As one student observed: 'Learning languages is a social thing' (R#53).

As well as acknowledging the importance of communicative activities to use their newly acquired language in real-life interactions, many respondents also emphasised the role of other types of interactivity to help reinforce and automatise their declarative knowledge (Principle 4). Language Perfect, for example, was credited with providing regular and repetitive visual and aural input (Principle 6): 'Māori to English, English to Māori, correct spelling, hearing the word. Brilliant.' (R#39). Language Perfect also provided a medium for students' written output (Principle 7), giving 'constant feedback' (R#79) at a level that would otherwise have been extremely challenging for a teacher with a class of 130 students.

Principles 5 and 9

In Principle 5, Ellis (2005) draws attention to the need for language programmes to support the 'natural processes of acquisition' (p. 38). However, some language teachers admit to having insufficient knowledge about their learners' 'built-in syllabus' to make informed decisions, making this principle particularly difficult for them to operationalise (Howard & Millar, 2009). Taking account of individual differences in learners (Principle 9) by making work available over a range of levels, and providing a range of ways to access and engage with the course content, can help address this issue.

Some of the digitally-mediated tools utilised in this course were introduced specifically to provide multiple avenues and opportunities for students to develop their skills and proficiencies independently, in ways and at times that suited them best. Some students were particularly appreciative of the range of tools provided: 'It was really good having additional resources in each [module] that you could use if you wanted to; there were a variety of learning styles catered for' (R#60). Other students recognised that 'languages take a lot of self-study outside of the classroom' (R#42), and valued the flexibility to organise their learning around their other commitments: 'I could practise as much or as little as I liked, anytime' (R#47).

Technology-Enhanced Language Learning

Although there is variation in the reported helpfulness attributed to each tool used in this course, and in the manner in which participants used them, the students reported that overall each tool contributed to progress in their learning. Reported changes in students' proficiency and teaching readiness were attributed in part to the opportunities that digital technologies made possible. The adoption of Moodle as a learning management system provided a seamless conduit to the other technology-mediated facets of the course, including recordings of the lectures and workshops, *Ākona te Reo*, and *Language Perfect*. In doing so, the possibility for any time, any place, and flexible pace language learning for the students was greatly increased.

However, as many commentators have pointed out, 'learning does not take place better or faster simply by replacing one instructional medium with another' (Thornburg, 1999), nor, indeed, by throwing more and more tools into the mix. As educator Skyrme explains, the 'challenge is not succumbing entirely to the lure of the possible ... but ensuring that what we do is grounded in strong teaching principles and covers the building blocks that remain essential' (2015). Skyrme's caution applies not just to language teaching and learning, but to all areas of the curriculum. In responding to this caution, this research has contributed to ongoing systematic and considered developments within the course being studied, and has also increased the student participants' formal reflection on the potential applicability of the tools they have used in this course for when they have their own classes in the very near future.

Conclusion

Rapid growth in the types and capabilities of digital technologies continues to transform what is possible, and indeed what is expected, within and beyond formal educational settings. With such a proliferation of possibilities, it is imperative that new technologies are not uncritically embraced at the expense of principled pedagogy. It is clear that best practice in delivery across multiple modes requires experience and openness to take a big picture view of the goals of a course and the most appropriate tools to meet those goals. Student voices in this study have endorsed the value of blended learning as a means to harness the affordances of face-to-face, online and experiential possibilities. The participants have provided valuable insights into factors that enhanced their any time, any place, flexible pace language learning. However, the students also placed value on some aspects of the course that worked best for them with right here, right now engagement. These findings reinforce the importance of fully engaging learners, as key stakeholders, as the pedagogical potentials of new technologies for learning within and beyond traditional teaching spaces continue to be explored.

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