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# The FarNet Journey: Effective Teaching Strategies for Engaging Māori Students on the Virtual Learning Network

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# The FarNet journey: Effective teaching strategies for engaging Māori students on the Virtual Learning Network

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## Abstract

The Virtual Learning Network (VLN) provides schools, particularly those in rural and remote areas, with the opportunity to cooperate to expand curricular offerings for their students. Each school that participates in a VLN cluster contributes at least one course delivered by an e-teacher, allowing member schools access to any course offered through the VLN that they cannot offer locally. At present, there is no formal national training for the e-teachers, although individual clusters offer a range of training opportunities. This case study focused on the e-teachers' perceptions of the learning curve required for them to be adequately and effectively prepared to teach in the virtual environment. Results indicated that the experiences of e-teachers in this new learning environment were positive, but still embedded in the norm of a school. Further, e-teachers desired professional development beyond learning how to use the technology, but wanted more assistance in developing their pedagogy to work in the online environment. It is recommended that VLN cluster administration, and the Ministry of Education, provide a range of professional development opportunities in a variety of formats. The focus of this professional development should move beyond the technological tools and focus on how to use those tools in a virtual learning environment.

## Introduction

The Virtual Learning Network (VLN) began in the mid-1990s in several geographic regions as a way to provide a wider curriculum choice for students in primarily rural jurisdictions. The first of these geographic networks or e-learning clusters was CASAtech—a regional network in rural Canterbury (Wenmoth, 1996). This was followed by the introduction of the OtagoNet e-learning cluster in 2002 (Pullar & Brennan, 2008), and the FarNet e-learning cluster around the same time (Bennett & Barbour, 2012). These early networks, all of which were funded under different types of regional and national schemes and programmes, formed the basis of what would eventually become the VLN—a loose network of cooperating clusters throughout New Zealand (Barbour, 2011).

The online courses are offered in a reciprocal model in which the 12 current clusters work together to share their human resources—namely teachers who deliver online, who are known as e-teachers. Each cluster contributes to the VLN a programme of learning delivered by an

e-teacher. This sharing allows the member schools to participate in courses that they are unable to deliver. There is no formal training in the developing pedagogy for the e-teachers nationally, although individual clusters offer a range of training opportunities. The formal training received by most e-teachers has been on using video-conferencing technology. As a result there is now a wide range of models of delivery of online classes.

This case study examined the preparation and practice of e-teachers, as well as effective strategies for engaging students, particularly Māori students. This general purpose led to three research questions:

1. What delivery models are being used to provide classes on the VLN?
2. What are the perceptions of e-teachers about the professional development they have received?
3. What Web 2.0 tools are e-teachers using in their online classes to engage student learning?

Given the focus of the study upon the FarNet e-learning cluster, a case-study methodology was deemed appropriate to address these research questions. In this article we describe the background of virtual teaching in New Zealand, followed by a discussion of our case-study methodology. Next, we discuss the four main themes from the findings of our study. Finally, we discuss two implications for practitioners, and make two suggestions for future research.

## Literature review

The current generation of students is often referred to as 'the net generation' and 'digital natives', and there is an assumption that they are technologically savvy. However, online learning is still relatively new and most students, regardless of age, do not possess the cultural norms for engaging in online learning. Online or virtual teaching requires even the most experienced classroom teacher to make a thoughtful transition to the new environment. Learners must be well prepared for entering this environment (Davis & Roblyer, 2005), and the teacher may have to provide serious support for students as they learn how to learn online. Hobgood (2003) identified successful virtual learners as those students who have been fully prepared, and this requires more planning on the part of the teacher than is normally seen in the traditional classroom.

Jeffares (2008) traced the development of virtual learning in the schools sector in New Zealand as growing from a long history of more traditional forms of distance learning. Further, she indicated that virtual learning, as it has been operationalised in New Zealand for much of the recent decades has focused on the medium of video conferencing. Jeffares also believed that video conferencing and virtual learning in New Zealand schools had the potential to offer more than simply widening students' curriculum choices, as was often the rationale or logic behind distance education. Finally, she stressed the importance of schools transforming to assimilate or reconcile the traditional teaching model with a teaching model that was more aligned with 21st century learning skills to better meet the changing needs of students.

At present, a range of teaching models, including a blend of virtual teaching and opportunities for face-to-face interactions, is being used through the VLN as part of the students' programme. The face-to-face opportunities often occur on an initial 'e-day', and in further site visits to their schools during the year (Lin & Bolstad, 2008; Walsh-Pasco, 2004). Several VLN e-learning clusters have organised one or more e-days each term, at which all of the students from an individual cluster come to a single school to meet their e-teacher (Jeffares, 2008; Walsh-Pasco, 2004). These e-days also provide students with an opportunity to meet and get to know their fellow students—these meetings can help to build relationships and a sense of community in their virtual classes (Lai & Pratt, 2004). Research has demonstrated that distance and virtual

learning puts more responsibility on students to direct their own learning in general, and video conferencing was found to be no exception (Lin & Bolstad, 2008). Students have to be motivated and comfortable with learning independently if they are to be successful in the virtual learning environment (Lai & Pratt, 2004; Walsh-Pasco, 2004).

Because students need more independent learning skills, the onus is also on the virtual teacher to ensure that they take advantage of all of the tools and pedagogical strategies provided in the virtual setting to create a welcoming environment that encourages students to take that responsibility (Barbour, 2011). However, recent research into the effectiveness of engaging students through the VLN found that many virtual teachers using video conferencing employed more traditional teaching techniques in their virtual classes (Lin & Bolstad, 2008). The authors suggested that perhaps these virtual teachers were not fully exploiting all the opportunities and potential new learning methods that the virtual medium had to offer. This suggestion was consistent with other research that has found that considerable time and money needs to be invested in providing quality professional development and ongoing support networks for teachers and students who are working in these virtual environments (Ohia, 2008; Wallace, 2008).

While today's students may use technology extensively, few students know how to use that technology to learn in distance or virtual settings. Yet for many students, using technology is the only way to access certain curricular opportunities. Unfortunately, many of the teachers engaged in delivering these virtual learning opportunities have similar deficits when it comes to using technology as a teaching tool. Clearly there is a need for additional research to better understand the perceptions and needs of virtual teachers in this emerging learning environment.

## Methodology

The case study was conducted with the FarNet VLN e-learning cluster during the 2009 school year (Stake, 1995), when more than 80% of the enrolled students identified as Māori. At the time of the study, FarNet had nine schools, but they did not all have students enrolled in online classes via video conferencing through the VLN. A total of 63 students were enrolled in online classes via video conferencing through the VLN, and the majority of those were from Northland College. These students (referred to as e-students) were enrolled in 12 different programmes of learning taught by 12 different teachers. These teachers were referred to as e-teachers.

All of the schools agreed to participate in the study, and so 12 e-teachers were asked to complete an online survey, participate in a semi-structured interview, and provide access to their online classroom. Of the 12 e-teachers, only six completed the online survey, four were selected to be interviewed, and seven provided access to their online classes. The online survey elicited e-teachers' opinions on effective professional development, online class size, building relationships in the online environment, communication methods, Web 2.0 tools, student collaboration, e-teacher support, and reflective practice (see Appendix A).

The semi-structured interviews involved four e-teachers (Patton, 2002). The purpose of the interview, as a secondary data collection method, was to gather a more in-depth understanding of how the virtual classes were run and how Web 2.0 tools were used to engage e-students, especially those e-students who identified as being of Māori descent (see Appendix B). The interview protocol also included questions that asked the e-teachers to provide greater detail about some of the findings from the online survey, and some of the findings from a similar study conducted with other e-students (see Bennett & Barbour, 2012). Reflective questioning (using three levels of questioning) was used to promote collaborative dialogue from the e-teachers (Barnett & Lee, 1994; Robertson, 1995; Winters, 1998). The first level of questioning was to clarify the details about the interviewees' online experience, the second level of questioning was

used to clarify the purposes or reasons and the intended consequences of a certain action which the interviewee had referred to, and the third level of questioning was used to encourage the interviewee to reflect on the consequences of the action that they had taken. The interviews were conducted in person, via Skype, and using the video-conferencing system. Each interview was recorded with audio or video, and then transcribed. Participants were given copies of the transcriptions so they had an opportunity to member check the documents before the data was analysed.

Finally, the online course content was analysed with an observation tool that was developed from the *Do-it-yourself course design evaluation sheet* (Ragan, 2009). This evaluation form was used to measure the effectiveness of an online course. Multiple methods of collecting data were used to address each of the research questions. According to Lawrence-Lightfoot and Davis (1997), methodological triangulation assists in the analysis phase, particularly by making it easier to discover and verify themes from the different sources of data. The data was analysed using the method outlined by Miles and Huberman (1994).

# Results and discussion

The six e-teachers who completed the online survey (response rate of 50%) represented five schools and one tertiary organisation. One e-teacher identified themselves as being of Māori descent, three e-teachers recognised themselves as New Zealand European, and two e-teachers indicated "other." Four of the participants were male and two were female. Three of the e-teachers had taught for 2 to 3 years, one e-teacher had taught for 4 to 5 years, and two e-teachers had taught for more than 5 years. Most of the e-teachers taught classes that had 10 to 12 students, and they all indicated that they were aware of the nationalities of their e-students. Five of the six e-teachers had a learning management system (LMS) to support their teaching, and visited it at least once a day.

The general trends from the data, which included the online surveys, interviews, and the review of the asynchronous course content, was organised into four areas: overall perceptions, communications (including Web 2.0 tools), relationships, and professional development.

## Overall perceptions

E-teachers identified a range of features they liked about teaching in a virtual classroom.

**Table 1** Sample of e-teacher responses

| |
|---|
| "Interaction with students and giving them responsibility." |
| "Meeting other students and working with them to reach their potential." |
| "Focus is on learning and not classroom management." |
| "The use of technology." |
| "The enthusiastic nature of the students." |
| "Making learning activities up as we go, the unpredictability, the freedom to design new curricula, playing with the toys, Moodle rocks!" |
| "The flexibility of only being in front of a class one hour out of my week, but the flexibility of working online at times that suit me." |

The same e-teachers also identified a range of features they did not like about teaching in a virtual environment.

**Table 2** Sample of e-teacher responses

| |
|---|
| "Sometimes communication is a bit weak, especially between the home school and not being there to help the students in person when they struggle." |
| "Extra workload, students not keeping up with work and not attending classes (not always their fault)." |
| "Negative influence of other teachers (based at the e-student's home school)." |
| "Lack of support for the e-students at their own schools." |
| "The expectation that [video conferencing] replaces [face-to-face] when it is in fact a completely different mode of delivery." |
| "When technology fails, going back to chalk and talk." |

Although the e-teachers, both in the online survey and in the interviews, provided a list of things that they did not like about being a virtual teacher, they all acknowledged that the learning experience was new to them and that, as it became more embedded in their schools, the pressure from their colleagues about the job of an virtual teacher being seen as an 'easy ride' would disappear. They also felt that many of the other negative sentiments would also decline over time as virtual learning became more common and their own experience with the virtual environment increased.

## Communications

The most common way to communicate with e-students was by email, which all of the e-teachers reported using regularly. Four of the six e-teachers also indicated that they regularly used video conferencing (outside scheduled video-conference time) to communicate with students, while three indicated that they also communicated with their e-students by fax, text message, and phone. Additionally, one e-teacher successfully experimented with Skype, through which he provided a very personalised learning programme for his e-student. Most of these Skype sessions occurred outside normal school hours, at a time agreed by both parties. This method of communication relied upon the e-student having adequate internet access, which was not always the case in the geographic areas represented by the FarNet e-learning cluster.

The LMS was also used extensively. For example, three of the e-teachers reported that they used the discussion forums as a means of communicating regularly with their e-students. Five of the six e-teachers indicated that they regularly posted work in the LMS, and that this was how teachers preferred their e-students to submit their work (followed by submission through email and the discussion forum). It is interesting that almost all of the e-teachers reported using the LMS in some fashion, but only half of them indicated that they used the discussion forum feature. As Jusri (2003) described in their own study of virtual learning, teachers identified discussion forums as being effective for developing online community and collaboration, as well as for self- and peer-appraisal. Even more interesting was the fact that half of the e-teachers encouraged their students to collaborate and communicate with each other (the results were not collected in a manner that allowed the researchers to determine whether this was the same "half" that indicated they used the discussion forums).

As the internet (and, particularly, the world wide web) have evolved, Web 2.0 tools have become a common medium for collaboration by both students and teachers. The Web 2.0 tools identified by e-teachers in this study as being used in their classes are identified in Table 3.

**Table 3** Web 2.0 tools used by e-teachers

| Tool | Number of Teachers (n = 6) |
|------|----------------------------|
| Learning management system | 5 |
| YouTube | 5 |
| Wikis | 3 |
| Skype | 2 |
| Facebook | 1 |
| Blog | 1 |
| Google Docs | 0 |
| Other (please specify) | 3 |
| None of the above | 1 |

One of the challenges acknowledged by all of the e-teachers was that they were on a steep learning curve, and that they often used tools based on suggestions by their e-students. Interestingly, Google Docs was not used at the time by any of the e-teachers in this study, although four of the e-teachers noted during the interviews that they had recently identified Google Docs as having the potential to collaborate with their virtual classes.

Finally, there was a great deal of variation in the amount of formal reporting by the e-teachers. Only three of the six e-teachers indicated that they sent out reports at the end of the first term, four prepared reports during the second term, and five did so during the third term. It is worth noting that all four e-teachers who were interviewed indicated that they believed that reports for the e-students should be prepared each term, including Term Four. The metasynthesis work conducted by Hattie (2009) supports the notion of increasing communication to students in a variety of formats. For example, three of the top ten effect sizes found by Hattie focused on communication between student and teacher. On the other hand, only three of the six e-teachers used some form of course evaluation with their e-students at the end of each course to gain their opinions on the design and delivery of their virtual course. However, all of the e-teachers believed that using this form of course evaluation would be a good way to gain valuable feedback on the e-student experience and to assist in their own reflective practice.

## Relationships

Developing relationships in the virtual class was seen as being important to the e-students' overall learning experience. These relationships were broken down into two types: student–student relationships and teacher–student relationships. Five of the e-teachers judged relationships amongst e-students as being important, but all six e-teachers judged the relationship between e-students and the e-teacher as being important. The work of Bishop, Berryman, Tiakiwai, and Richardson (2003), argued the importance of developing strong relationships with students to engage them in learning.

These authors were especially aware of the considerations needed for some Māori students when their absence from their weekly video-conferencing classes was due to a cultural activity. The interviews pointed to e-teachers' understanding of the importance of knowing which of their e-students were Māori and who could therefore have cultural activities to attend. However, the interview data also suggested that the initial data provided to the e-teacher by the participating school at the beginning of the year often did not provide this valuable information. One e-teacher suggested that there was a danger in having this information, because it might lead them to make assumptions about the e-student—a phenomenon Bishop et al described as "deficit theorizing".

While the data indicated the importance some e-teachers placed on developing opportunities for e-students to develop relationships with each other, most of them had not provided systematic opportunities for this activity during the previous school year. In addition to relationships between the e-teacher and e-students, and amongst e-students, four of the e-teachers believed that the relationships between e-teachers and their local school coordinators were important. Further, three e-teachers reported that they felt the relationship between e-teacher and e-principal was also important. E-teachers expressed a desire to be more aware of who held the position of the local school coordinator, so they could ensure that the e-student was well supported. In most situations, the e-teacher indicated they had either visited the e-students in person in their own school or met them at an e-day at the beginning of the year. Interestingly, the e-teacher based with the tertiary provider felt it was very important that he visited e-students regularly during the year to reinforce their learning, and he also regarded the visits as opportunities to further develop the relationship with his e-students. Finally, he noted that, based on his own anecdotal evidence, these relationships resulted in many of those e-students who took a virtual course at their local school through video conferencing going on to study full time at his tertiary institution.

## Professional development

All six of the e-teachers reported that they had been involved in a wide range of professional learning and development opportunities to support their role. Both in the surveys and during the interviews, e-teachers indicated that they had attended conferences, participated in training organised by their e-learning clusters or by Asnet, been involved in research and peer support as an e-fellow or involved in the Ministry of Education e-Leadership Clustership project, and finally received regular training via video conferencing. Overall, the e-teachers felt that the professional learning and development identified was effective, and they especially mentioned training that focused on the pedagogy (rather than using the equipment). The e-teachers also indicated that they believe that receiving their training through video conferencing was very effective, as it reduced the time involved in travel to the training.

The data also suggested that e-teachers felt it was of paramount importance for all e-teachers to start the year with a 2-day e-hui, which many clusters ran either at the end of the previous year or at the beginning of the year (and often at both times). The e-hui was viewed as the most effective professional development, at least in terms of networking with other practitioners and community building. E-teachers had a sense of coming to share their experiences—both good and bad—and they could also challenge those teachers who had been doing the same thing year after year without embracing the teaching opportunities provided by Web 2.0 and other online tools.

Finally, the data indicated the need for further professional learning and development opportunities, but that all of the e-teachers felt they were well past the stage of simply learning how to use the equipment and technology. All e-teachers reported that they had received a range of opportunities for this kind of professional learning and development—some paid for by the cluster or individual school and some paid through Information Communication Technology Professional Development funding. All of the e-teachers had also experienced some form of online professional development, and they each felt this was often the most effective form of professional development because it was specific to their needs, required no travel, and saved on human resource time. Overall, the data suggested that e-teachers believed they required ongoing professional development opportunities, both in face-to-face and online formats, to develop their pedagogy of virtual teaching. Observing good practice amongst practitioners and being part of online communities of practice have been identified as effective ways to develop a virtual teacher's understanding and to support their own practice. Rodriguez, Ooms, and Montanez (2008) found that teachers needed support to promote improved learning experiences and to develop relationships. Time was identified as the greatest barrier to achieving these goals.

It should also be noted that there is a growing literature base arguing that professional development for teachers in the virtual learning environment is more important than for those in the face-to-face environment (although most of this literature is from scholars based in North America). Roblyer and McKenzie (2000), who were among the first of these scholars, argued that while many of the factors that make a successful virtual teacher were similar for any successful teacher, teaching in a virtual environment requires several skills that are unique to that environment—and in many instances these unique skills are tied to the ever-changing nature of the tools used by virtual teachers (Kaseman & Kaseman, 2000). For example, Easton (2003) indicated that virtual teachers needed more advanced skills in managing instructional activities and assessments, and stronger engagement skills because interactions with students are separated by both time and space. Recognising that virtual teaching requires additional professional development, the Government of Nova Scotia and the Nova Scotia Teachers Union even included a requirement for higher levels of professional development for virtual teachers than face-to-face teachers as a part of their collective agreement in that Canadian province (Barbour & Adelstein, 2013). The data in this study underscores many of these themes found in North America.

## Conclusions and implications

The e-teachers enjoyed their virtual teaching experiences, although they also indicated that they still faced challenges teaching in this new and innovative mode. As a part of their virtual teaching, e-teachers used a variety of methods to communicate with their e-students (and to encourage the students to communicate with each other). The primary method that was used was email, and almost all of the e-teachers indicated they felt they still underused many methods of communication (particularly Web 2.0 tools). Communication was regarded as being particularly important to the e-teachers because they felt it was critical for them to establish strong relationships with their e-students. Further, e-teachers believed relationships with their Māori students were especially important. Because many of the tools available were underused, e-teachers were quite interested in professional development opportunities. To these e-teachers, effective professional development began with initial face-to-face sessions at the beginning of the school year, followed by distance opportunities (such as those provided through the video-conferencing system). Finally, e-teachers found professional development that focused on pedagogy, rather than the tools, to be most effective.

There are two main implications for practice. First, it would benefit any e-learning clusters to ensure that a range of professional development opportunities are available to their e-teachers. This professional development should be provided not just at the beginning or end of the school year, but consistently throughout the school year. Further, e-learning clusters and individual schools participating in the VLN should seek funding to provide the opportunity for e-teachers to attend conferences such as ULearn and Learning@Schools to further their professional training. This funding should be provided on condition that those e-teachers provide a workshop and support for other e-teachers and school-based teachers when they return. Teachers also identified the need to share their experiences with others, which could be provided by developing and joining online communities of practice.

Finally, there are also two main suggestions for future research. First, due to one of the researchers' knowledge of the models available, selection of the e-teachers for the interviews and the online courses observed was based on knowledge that they were offering an effective virtual classroom. Researchers conducting future studies would need to include both those e-teachers and courses that were perceived to be effective, and those that are perceived as not being as enjoyable or effective to provide a balance and more accurate picture of existing virtual teaching models. Second, although one of the researchers was the e-principal for this particular cluster, a great deal of information was learned from this study (and another that focused on student

perceptions [see Bennett & Barbour, 2012]). It is recommended that the administration of any of the e-learning clusters should undertake systematic examination of the perceptions of the e-students, e-teachers, and e-deans to gain their opinions on what is working and where there are still challenges within the system. Each of these groups provides different and varying perspectives (all of which also differ from the cluster's administration) that could provide valuable guidance for the future development of the e-learning cluster.

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## Biographical notes

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Michael Barbour is an Assistant Professor at Wayne State University, and has been involved with primary and secondary online learning in Canada, the United States, and New Zealand for over a decade as a researcher, teacher, course designer and administrator. Michael's research focuses on the effective design, delivery and support of K–12 online learning, particularly for students located in rural jurisdictions.

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Carolyn Bennett is the ePrincipal of the FarNet and HarbourNet online communities which provide distance teaching and learning opportunities as part of the New Zealand Virtual Learning Network Community. She has been involved in traditional education for over 25 years as a teacher and deputy principal, and has been involved in distance learning for 7 years as a facilitator, online learner, researcher, e-teacher and now leader of these two communities.

## Appendix A

1. What national (ethnicity) are you? You can choose more than one. Please add your ethnicity if it is not listed.
    > New Zealand European
    > Māori
    > Pasifika (please state)
    > Indian
    > Asian
    > Other (please specify)

2. What is your gender?
    > Male
    > Female
3. How many years have you been teaching through the VLN?

## Appendix B

1. Establish the teacher's nationality, gender, school/cluster, course and level they teach, no. of classes they teach, whether they use a LMS, how long they have been teaching, how many students are in their class.
2. Tell me about any professional development opportunities you have received on teaching online or e-learning.
3. How effective has this professional development opportunity been in assisting you in your online teaching?
4. What type of professional development opportunities could assist you in the future?
5. What things do you do differently in an online class than in a face–to-face one?
6. Can you discuss the importance of relationships with your students, between students and with the coordinator?
7. Are you aware of any Māori students in your class and, if so, do you treat them any differently?
8. Do you have higher expectations of your e-students than of those in your face–to-face class?
9. How have you encouraged students to collaborate in your online class?
10. Can you tell me about how you run your online class?
11. What advice do you have for a future e-teacher?
12. What advice do you have for a future e-student?