Grass Roots Project Report

Connecting to Expert Teachers-Virtually

Version number 1.0

Table of Contents

Introduction

Background

This project was led by Melanie Matthews (Deputy Principal & Year 2 teacher, Wairakei Primary School) and Olivia Graham (Year 5/6 teacher).

The project explored students' responses to being part of the Virtual Learning Network (VLN) Primary school.

The VLN Primary (VLNP) initiative, which began in 2010, aims to extend learning opportunities for students by enabling online collaborations between schools. Students participate in classes in the VLNP in languages, computer science and astronomy. One teacher from Wairakei also teaches students in other schools from within the VLNP.

The vision of the VLNP school is to:

- become the national virtual learning centre for quality online teaching and learning programmes for the New Zealand Primary education sector,
- provide online and blended learning programmes to schools that enable equitable educational opportunities for diverse learners in a variety of locations with a range of specific needs.

The student characteristics the VLNP aims to develop include the following:

- When our students are attending the VLNP they are connecting with learners and teachers in others centres.
- Our students learning goals support their choices to learn in the VLNP
- When our students are connecting to expert teachers and learners outside of their school environment they are learning how to use digital technologies and problem solve.
- Our learners get to choose the learning areas they are passionate about to support their learning goals.
- When our learners connect to the VLNP they are also learning alongside their peers who share the same passion.

At the time of our application for Grass Roots Ideas funding, the senior school team was interested in exploring how the VLNP benefits our students and how the teachers and community felt about it. At the same time there was a lot of discussion in our profession and within the media about Communities Of Online Learners (COOLs). We were also aware of the new Digital Technologies Curriculum that was being introduced in 2018. It was timely for a review of the VLNP and how it would fit with our learners, community and our strategic direction.

Objectives/inquiry questions

The inquiry

This inquiry aimed to investigate how offering classes within the VLNP impacts on our students engagement and their learning outcomes.

The guiding question: How does the VLNP support and develop our learners engagement and their learning outcomes within our Innovative Learning Environment (ILE)?

Rationale:
Student perspective
The inquiry and focus of data collection was guided by the following questions:
1. How are students attending VLNP classrooms experiencing self directing their own learning and do they believe this learning is improving their learning outcomes:
2. How is teaching and learning changing for students?
3. What differences are being experienced by priority learners?

Community perspective
The inquiry and focus of data collection was guided by the following questions:

1. What are the parents views on the students experiencing self direction of their own learning?
2. What changes would you make?

Teacher perspectives
The inquiry and focus of data collection was guided by the following questions:
1. What are the teacher experiences and how is this impacting on their work with students and whanau?
2. What are the greatest changes seen in teaching / for students / to achievement (for priority learners)?
3. What are the greatest challenges being faced?

4. Does the VLNP fit with our Learning Values, Behaviour Values and our pedagogy?
5. Does the VLNP have a good fit with all our stakeholders - whanau, community, teachers, BOT?

Background reading/literature review

With the limited time available to the inquiry team, we were not able to engage in a full literature review. However, we did find the following reading and presentations informed our thinking

Roberts, R. (2010) Teaching Under the Microscope Trends in Online Learning. Paper presented at Ulearn Conference, 6 - 8 October, 2010, Christchurch.

Abstract:
In the recent decade there has been major growth in online learning in New Zealand schools, as a result many teachers have found themselves in the role of 'eteacher'. This article examines the key trends in online learning such as the convergence of distance learning and face to face teaching methodologies and technologies, the drive towards more flexible and

personalised learning opportunities for students, changing pedagogies towards a more constructivist approach to teaching and learning, advancing technologies and changing student expectations. The implications of these trends for teachers are discussed in relation to the changing nature of their roles, the management of workloads and working conditions, and the importance of appropriate professional development opportunities.

http://www.education.govt.nz/assets/Documents/Ministry/Initiatives/Lifelonglearners.pdf

New Zealand Education in 2025: Lead with Pedagogy, Accelerate with Technology

Regulatory Impact Statement
Establishing a regulatory framework for online learning

 Dr Emma Bartle, March 16,2015, Personalised Learning an Overview.Core Educations Ten Trends 2014: Learning Agency

Suzy Pepper Rollins, Learning in the Fast Lane, 2014.

Dr Rosmary Hipkins, 2007, Assessing key Competencies: Why Would We? How Could We?

Assumptions/theories/definitions

As we began our inquiry, we had a 'hunch' that the students were benefiting greatly from the programmes offered, based on their engagement in the classes, their independence to go to classes and the learning that they were sharing with us and presenting to the school during assembly.

The inquiry team share a personal philosophy of teaching that assumes all learners need to be given opportunities to experience learning with a difference. We advocate a move away from traditional practices that do not provide equality for all learners. We believe that all learners need to experience a digital learning environment that is personalised, deliberate and monitored for its benefits to the students learning.

A number of acronyms are used within this report. These are explained below:

VLNP: Virtual Learning Network Primary School

VLN: Virtual Learning Network

CoOL: Communities of Online Learning

'WeLearn' – Online sharing space for the VLNP

MOE – Ministry of Education

SENCO – Special Education Needs Coordinator

Methodology & Design

Methodology

Measurement, recording and analysing

The inquiry was qualitative in nature, and used a narrative approach by generating data through observation, group discussion with students, teachers, whanau also individual discussions. This was then analysed thematically.

Project Design

Observations

Observations were carried out during teaching times. The observer was not the teacher in the VLNP. The observer was Olivia Graham, Year 5/6 teacher and Grass Roots support teacher. She observed with the Rationale in mind was guided by the inquiry questions listed above.

Focus group interviews

We created a focus group of six Year 6 students participating in the VLNP classes. The factors we used to choose the students consisted of:

- Priority learners

- Special needs

- Range of abilities

- A range of virtual learning classes

Achievement data and the data above was used to identify groups of students. Our focus group was made up of Year 6 priority learners with special needs as identified by our Senco register. The make up of the students was one special needs student (in the programming class), one low level learner (in the French class), one student needing social skills support (in the Te Reo Māori class), three Māori priority learners and one Māori prority learner (in the Mandarin class). The other two Māori priority learners, were in the Te Reo Māori class.

The focus group was interviewed on two separate occasions on 13 April 2017 and 7 July 2017.

Surveys

A survey was sent out to the school community on two separate occasions in May and June. Our teachers, in the Year 5/6 learning communites, were also surveyed at the same time as the parents. Questions used in the focus groups and surveys are included in the appendix.

Inquiry question	Method used to address question
How are students attending VLNP classrooms, experiencing self direction of their own learning and do they believe this learning is improving their learning outcomes?	Video interviews
How is teaching and learning changing for students?	Video interviews
What differences are being experienced by priority learners?	Video interviews

Data generation/collection

Olivia Graham, Grass Roots support teacher, gathered the data from students through face-to-face interviews with groups of two students. A video recorder was used to record the interviews. The community and teacher's data was gathered by digital surveys.

Data Analysis

Melanie Matthews analysed all the interviews and surveys using the thematic approach set out in Viv Aitken's, *Qualitative data analyis guide for Grassroots project leaders.* The guide was adapted from Mutch, C. (2013) *Doing Educational research: A practitioners's guide to getting started (Second Edition).* Wellington, New Zealand Council for Educational Research.

The process included the steps below:

1. Browse

2. Highlight

3. Code

4. Group and Label

5. Develop themes or categories

6. Check for consistency and resonance

7. Select examples

8. Report findings

Findings

Through analysis, we recognised three key themes in our data. These were:

1. Lifelong learners in a connected world
2. Student agency and personalisation of learning
3. Digital citizenship/safety online.

Each theme contains several subthemes within it. These findings are set out below, with quotes from the data to support each one.

Lifelong learners in a connected world

- The VLNP classes offer something unique, different, and fun within the school.
  - *"The normal workshop teaches you maths and writing. Normal workshops teach you the normal subjects of school while the VLN teaches you languages. It's like a special workshop."* (Student A, second interview)
  - *"It's really fun and it's cool to learn other things."* (Student K, second interview)
  - *"It's good to learn new things about the language you want to learn."* (Student H, first interview)
  - *"VLN is funner than other usual workshops in class because you get to spend time away from classes."* (Student K, second interview)
  - *"VLN is better than regular workshops… like maths, writing and reading and stuff."* (Student K, first interview)

- Some students enjoy learning with other teachers and learners; some do not.
  - *"I like working with other people." (Student J, second interview)*
  - *"I don't get confidence to say stuff. I get shy… because the people on our VLN, they laugh at what people say, how someone says it." (Student T, second interview)*
  - *"I don't like that we have other schools with us." (Student T, first interview)*
  - *"There's a lot more people from different schools and our school."* (Student T, first interview)

- Students are aware that they live in a connected world.
  - *"It's exactly like being in a normal classroom except everybody is just on the screen. It's like you're talking face to face."* (Student A, second interview)
  - *"[The best thing is] learning about computers and programming and stuff. Technology has taken over - you cannot escape technology."* (Student J, second interview)
  - *"[We have] a good little group with a couple of schools."* (Student J, second interview)
  - *"Well, when you learn from a workshop, not on computers, you work with your school mates. But on VLN, you work with people from different places."* (Student T, second interview)

- Some students enjoy taking their learning further with follow-up tasks.
  - *"You can learn different things and explore new stuff and for your homework, you get to do it in that language and then it helps you a lot." (Student T,*

second interview) Some students enjoy taking their learning further with follow-up tasks.

- o *"You can learn different things and explore new stuff and for your homework, you get to do it in that language and then it helps you a lot."* (Student T, second interview).
- o Research memo dated 24 March 2017: Some students have begun to decorate the VLN room with their learning. Some students have been given homework and some are keen to complete this, while others are not. The ILE allows them to timetable blocks of time to complete this using their own initiative.

- Lack of community knowledge in understanding what the VLNP is and does for their children.
  - o When answering the question, 'What do you know and understand about your child self-directing their own learning?', responses were:
    - ▪ I'm not exactly sure.
    - ▪ Nothing.
    - ▪ I don't know much about VLN.

- Knowing when to listen, how to share and how to be heard.
  - o *"If you talk too much, and everyone tries to talk as well, to the VLN teacher, it will start getting all glitchy and make annoying sounds that could make your ears ring."* (Student J, second interview)
  - o *"I usually put my hand up."* (Student J, second interview)
  - o *"We don't usually put our hands up when we need to ask something, we just type on the message thing. We have to write our name down."* (Student T, second interview)

Student agency and personalisation of learning for learners

- Students show varying levels of ability when managing themselves.
  - o *"I always go with a buddy because that way I don't forget how to spell Sofie."* (Student R, second interview) Note: To login to their class, students must type 'learnwithsofie'. Sofie is their teacher's name.
  - o *"I opened the door and T was like, 'A, you are very late, so you can't really do VLN today.' I went, 'Okay, bye.'"* Student A, second interview.

- Students struggle with the concept of personal learning goals and are unsure how they connect to VLN.
  - o When asked if VLN helps you reach your learning goals, students responded with:
    - ▪ *"Not really."* (Student R, first interview)
    - ▪ *"Absolutely nothing to do with it."* (Student R, second interview)
    - ▪ *"I'm not sure."* (Student K, second interview)
    - ▪ *"Yes, I can learn more language."* (Student T, first interview)

- VLN is seen by students and teachers as separate to 'normal' class learning.
  - o *"You can learn stuff beyond what you've been learning, like programming, different languages, and all that type of stuff."* (Student J, first interview)
  - o *"We don't get much chances to talk in VLN and then for our learning in the classroom, we do."* (Student T, first interview)
  - o *"It's pretty much different because we do a lot in VLN compared to normal workshops."* (Student J, second interview)

- "It is a pain to have re-explain a task to the students when they have a [VLN] lesson. Or if their VLN lesson is during a dedicated workshop, they miss vital information. In saying that, I can try and plan my timetable better to suit the VLN." (Teacher A feedback)
  - "There is little connection between what they are doing in VLN and class." (Teacher B feedback)

- VLN is a quiet learning environment.
  - "It's online and they are not right next to you. You are in a quiet classroom when it happens." (Student R, second interview)

Digital citizenship/safety online

- Students need to be capable of managing the technology.
  - "It's hard because you're so far away. Like half the time, you don't even hear what they say because they're halfway across the world. They ask you a question, you don't know what they are saying, so you ask them to repeat it three or four times." (Student A, second interview)
  - "Apart from not hearing anything, it's really good. It helps me. In a normal workshop, you can hear people and it's way better. Online you can't hear people and it is absolutely terrible." (in reference to the question, 'What would you tell your best friend about VLN?') (Student A, second interview)
  - "Sometimes when we talk, it can get glitchy." (Student J, second interview)
  - Research memo dated 24 February 2017: Would it be beneficial to have our Year 5 and Year 6 students enrolled so that we always have VLNP experts in our school?
  - Research memo 24 March 2017: One VLN teacher emailed to let us know that the Chromebook "doesn't have annotate function for Zoom, any chance he can use a laptop that's not Chromebook?" This student did not try to solve this issue himself. An iPad Pro with Apple Pencil was purchased for this student.

- Students can find it challenging to "use ICT to relate to others in positive, meaningful ways and demonstrate honesty and integrity and ethical behaviour in their use of ICT."
  - "Today I was going to do my speech… but I hadn't really wanted to do that because when one of the other people did it... one of the other schools laughed." (Student T, first interview)
  - Research memo dated 24 February 2017: During the trial of working in a classroom, some students didn't connect that the computer, headphones and camera sent them into an actual classroom where their behaviour would be observed just like an ordinary classroom. Students were doing and saying inappropriate things without realising they were being seen and heard on the other end.

Discussion

Our findings could be grouped into three main themes:

1. Lifelong learners in a connected world
2. Personalisation of learning for students
3. Cyber-citizenship (safety online)

Students appeared to agree that the VLNP classes are unique, different, and fun. A surprise finding was that students and teachers saw VLNP as separate from their 'normal' workshops and students enjoyed leaving their 'normal' classroom environment. Students made reference to the fact that learning in the classroom is about reading, writing and maths and that VLNP was "special". There appears to be a disconnect between the two learning settings. These findings appear to align with the ten trends of 2017, as presented by Core Education. Trend Number Five outlines the importance of "placing the learner at the centre of design decisions, and connecting all the settings that make up their educational pathway." Two teachers commented on the lack of connection between their classroom programme and the VLNP and that "vital information" is missed when students are at VLNP, indicating that more importance is being placed on learning in the classroom than in the virtual learning setting. One teacher recognised that this needs to be changed. *"Intentionality on the part of teachers [is needed] to create that context and environment where the learners are actively involved in the moment by moment learning."*

Year 6 students show varying levels of ability when managing themselves. VLNP requires students to show responsibility and motivation to attend their virtual lesson, prepare the equipment needed prior, leave the equipment ready for others to use, and keep up with their physical classroom requirements. These findings seem to suggest that the Key Competency of Managing Self, as outlined in the New Zealand Curriculum, is crucial when it comes to working within both physical and virtual learning environments. *"This competency is associated with self-motivation, a "can-do" attitude, and with students seeing themselves as capable learners. It is integral to self-assessment. Students who manage themselves are enterprising, resourceful, reliable, and resilient. They establish personal goals, make plans, manage projects, and set high standards. They have strategies for meeting challenges. They know when to lead, when to follow, and when and how to act independently."*

It would appear that traditional subject-specific learning goals do not link to VLNP lessons. For example, if a student's goal is to master long division in maths, there is no way to link this to a French lesson about the number of brothers and sisters students have. Teachers in each setting do not currently communicate with each other regarding learning goals. It would appear that our current traditional goal setting techniques are not compatible with COOLs, causing a disconnect to the VLNP lessons. Key Competency-based goals may allow the student's educational pathways in both the physical and the virtual classroom to authentically link.

Students had mixed feelings about working with teachers and students from other schools. A curious finding was that a student that typically prefers to work in isolation in the classroom setting commented that he liked working with other people through VLNP. It would appear that the online setting gave him enough distance, from others, so he felt comfortable working in that environment. In contrast, another student who is more confident to work with others in the classroom setting, is fearful of speaking in VLNP. For this student, it appears developed personal relationships are needed for her to participate in the learning.

Students know they live in a connected world. Their lives feature technology as the norm and the VLNP offers them a connection into an external learning environment. The protocols for listening and sharing are new and different to the normal, face-to-face classroom setting they are used to. It appears that students have quickly learned that the online class is similar to a real classroom setting in that they can be seen and heard and they know their behaviour has to be appropriate. Students are able to further their own learning after their time with their online teacher has ended through by accessing the learning content, through Google Classroom for example, and completing follow-up tasks to support their learning. It appears that motivated students use this forum well and communicate with their online teacher outside the connected class time.

Feedback from our community suggests there is a lack of knowledge about the VLNP. In our first year, in 2015, we were just trialling VLNP with only five students and little was shared. We realise communication around VLNP has been lacking and that we need to be more proactive in informing our community. We cannot rely on students to share their learning at home. As teachers, we need to strengthen the home-school partnership. We recognise that "the better the engagement between parents, families, and schools, the greater the positive impact on student learning."

Managing the technology appears to be a barrier for some learners. Difficulties mentioned were hearing the teacher, being heard by the teacher, background noise, audio feedback, use of headphones, and equipment being unsuitable for the task. According to TKI, to become digital citizens, students need to be "confident and capable" users of ICT. As well as the content of the virtual learning lessons, students are learning the "skills and strategies to access technology to communicate, connect, collaborate, and create." Having the ability to overcome technological barriers is crucial to allowing these students to have the "digital fluency to participate in life-enhancing opportunities."

Limitations

One of our limitations was our very small focus group of six priority learners. We believe our findings lack scope because of the small number of students interviewed. Our focus group was our Year 6 priority learners and special needs students. These students were chosen in alignment with the VLNP vision of providing online and blended teaching and learning programmes to schools that enable "equitable educational opportunities for diverse learners" We think possibly only interviewing each priority learner twice limited the amount of student voice we were able to access to support and write our findings.

In 2016, when the project outline was presented, Melanie was the senior school team leader and worked closely with Year 6 students. In 2017, Melanie moved to the junior school and was no longer as closely involved with those students.

The lack of experience of the interviewer was a limitation. She had a tendency to lead the participants and summarise in order to try and help form the students' understandings. It would be preferable that these responses were not drawn from the students, but rather students form their own conclusions.

Implications / Recommendations

Due to the barriers we have experienced with the students managing the technology, we wonder how to remedy these issues. It is possible that only enrolling Year 6 students into the VLNP limits the 'skills, resources and strategies' students have to problem-solve when it comes to technical issues. There are no student experts that they can approach, only the teachers. We wonder if by extending the invitation to other year groups, we would then have a cohort of experts coming through the school each year, so students could ideally rely on each other to solve these problems. This would allow the start of every school year to be more functional for the students and teachers when getting the virtual classes up and running. While student experts experienced in the VLNP are also provided with opportunities for agency, having an adult available is still very important to coordinate the programmes, liaise with eTeachers and work with the students.

The disjointed nature of the physical classroom and the virtual classroom has become strongly evident both in the student voice and teacher voice. VLNP is seen as an extra - something that Year 6s do because they are Year 6s. As referenced in the draft document *New Zealand Education in 2025*, the goal is to have learners that "learn by being digitally connected" and choose their own path. "A pervasive digital environment is empowering learners as never before, allowing them to take charge of their own learning anywhere, anytime" and this does not fit with the traditional model of a teacher-driven learning environment and pedagogy. The VLNP programmes, at the moment, are not integrated with physical classroom programmes and students often miss important classroom notices, instructions, or personalised workshops. VLNP needs to become linked to the classroom programme, perhaps through Key Competency-based goal setting, with more active involvement from all teachers of students involved. This may be more likely to occur if the virtual learners work within the same space as the physical classroom. Currently, our students work in a 'VLN room', attached to a classroom but completely separate from their own classrooms. Teachers are in a difficult position as they cannot be involved in VLNP when they are running their own programmes and are physically distant from the virtual classrooms. It would be valuable for our classrooms to have a quiet breakout spaces where students could still be included in their learning environment while in their virtual classroom. The quiet space would be valuable for audio connections that pick up everything else happening in the room.

The two learning environments should be intertwined, even though they are being planned and run by separate teachers and organisations. Planning for learning in both these areas is not shared, so teachers are unable to align their programmes. The subject matter is vastly different. As one teacher said, "There is little connection between what they are doing in VLN and class." However, in an ILE, inquiry learning and passion projects are a more common occurrence and these should be utilised to link the subject matter. Goal setting through Key Competencies could be a common factor that links the two. Core Education describe in their Ten Trends of 2017 that "digital technologies have changed how teachers and students approach learning. Knowledge is no longer constrained by the physical boundaries of the traditional classroom." Therefore, we need to find ways to connect the educational pathways of our physical classrooms and overcome the barriers that teachers have talked about. One teacher mentioned "it is a pain to have re-explain a task to the students when they have a [VLN] lesson. Or if their VLN lesson is during a dedicated workshop, they miss vital information." We therefore recommend that teachers explore ways in which they can communicate with students beyond a face-to-face workshop. At a basic level, recording success criteria in a modelling book should allow students a visual prompt to continue with a

task. Digitally, an app such as Tellagami allows teachers to create a quick video that students can play as many times as needed. Professional development may be needed for teachers understandings and skills to enable learner agency. Organisations such as Core Education offer questions for staff discussions, readings, and professional learning opportunities.

The importance of the home-school partnership was highlighted in the feedback we received from parents about VLNP. The lack of communication was made clear. "I don't know much about VLN," stated one parent, with others giving similar feedback. It is up to us as teachers to develop lines of communication with parents in regard to VLNP, giving information about the purpose, the content of the lessons, updating them on their child's progress, and allowing them the opportunity to join the classes, even from home. We recommend greater communication through the school newsletter, website, and possibly student e-portfolios, such as Seesaw.

Based on the findings of this inquiry, a future study could look at how relationships are formed between teachers and students in the VLNP. Given that lessons are only 30 minutes per week, this leaves little time for getting to know learners, how they like to learn, what their interests are, and therefore it is difficult to personalise the learning in this setting.

Conclusion / Additional comments

We can conclude from our study that our students are engaged in their virtual learning classrooms and this was strongly reflected in their comments regarding what they would tell their friends about the VLNP.

Our research also highlighted that there is a disconnect between the learning in the physical classroom and the virtual classroom. Steps are needed to align these educational pathways. Our teachers may need support and perhaps further professional learning to provide a clear connection between their classroom learning environment and the virtual e-learning environment that is happening nearby. COOLs such as the VLNP allow students to connect with specialists and aligns to the *New Zealand Education in 2025* draft document, which allows them "the ability to work and study specific disciplines in depth with others."

VLNP provides students with opportunities to discover new interests and explore a way of learning that they may not have experienced before. VLNP strongly supports all the Key Competencies outlined in the New Zealand Curriculum, especially Managing Self. This lends itself well to connecting learning goals in the both virtual and physical environments.

We foresee VLNP continuing in our school, with possible expansion into other year groups to enhance our base of student experts, so teachers are not so heavily relied upon for technical support.

We have learned that doing a research-informed inquiry project like this is a luxury that few teachers get. It has been an opportunity for deep discussions, frank realisations, and moments of discomfort.

As first-time researchers on this scale, we would like to thank a number of people. We acknowledge the Ministry of Education for allowing us to do this research through the Grass Roots Ideas Initiative; Tim Barling, Project Consultant for the DELTA Programme, for his support and advice when putting the original proposal together; the support of Viv Aitken throughout the project, who also provided the guidelines for the student interview process

and data analysis; Paula Farquhar, our principal, who supports the VLNP being a part of our school programme; Rachel Whalley, e-principal of VLNP, for her input regarding the proposal and her encouragement to do the project; teachers Sherryl Crawford and Colleen Green for their initial support in putting the proposal to our principal, Board of Trustees, and Ministry of Education.

Appendix – interview and survey questions

The following questions were used within the focus group interviews

Student Perspectives
1. What is it like for you to join your classroom? (PMI) Problems, bumps, interesting (regarding the technology)
2. What are your problems, bumps and interesting thoughts around how the VLNP helps your learning goals?
3. If you were trying to tell your best friend about the VLNP what would you tell them? - Thoughts and feelings
4. What is the same and what is different to learning in the VLNP to your other workshops?

The following questions were used to construct the surveys

Community perspectives

1. What are the parents views on the students experiencing self directing their own learning?
2. What changes would you make?

Teacher perspectives

1. What are the teacher experiences and how is this impacting on their work with students and whanau?
2. What are the greatest changes seen in teaching / for students / to achievement (for priority learners)?
3. What are the greatest challenges being faced?

4. Does the VLNP fit with our Learning Values, Behaviour Values and our pedagogy?
5. Does the VLNP have a good fit with all our stakeholders - whanau, community, teachers, BOT?

References

Ministry of Education (nd) *Enabling e-learning: Teaching te Ako – Digital Citizenship*. TKI website. Retrieved from http://elearning.tki.org.nz/Teaching/Digital-citizenship

Core Education (2016) *What's cool about COOLS?* Core Blog. Retrieved from http://blog.core-ed.org/blog/2016/09/whats-cool-about-cools.html

Ministry of Education (2015) *New Zealand Education in 2025: Lifelong Learners in a Connected World, an illustrative vision.* https://education.govt.nz/assets/Documents/Ministry/Initiatives/Lifelonglearners.pdf

Core Education (2017) *Ten Trends 2017*. Retrieved from Core Education, Ten Trends # 5, Communities of Learning, 2017

Core Education (2014) *Ten Trends 2014*. Retrieved from Core Education, Ten Trends # 1 Student Agency, 2014

Ministry of Education (2016) *The New Zealand Curriculum, Key Competencies*. Retrieved from http://nzcurriculum.tki.org.nz/The-New-Zealand-Curriculum#managing

Ministry of Education (2017) *Engaging with the community, home school partnerships.* Retrieved from http://elearning.tki.org.nz/Beyond-the-classroom/Engaging-with-the-community/Home-school-partnerships

Ministry of Education (2017) *Enabling e-learning/teaching, digital citzenship.* Retrieved from http://elearning.tki.org.nz/Teaching/Digital-citizenship

Netsafe (2016) *Digital Citizenship in schools.* Retrieved from https://www.netsafe.org.nz/digital-citizenship-schools/

VLN Primary School (2017) *Charter and Strategic Plan 2018 – 2020.* Retrieved from https://docs.google.com/document/d/18t14Ko-wSbUgyea8s1QG8agKqqA3WPceH1Uk9VVxM4w/edit