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**Online social networking
and its impact on
New Zealand educators' professional learning**

A thesis
submitted in partial fulfilment
of the requirements for the degree
of
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at
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Abstract

The trend towards collaborative social software and technology in education appears to be exponential. The notion of 'Web 2.0' seems almost traditional in the face of aggregation tools and multi-platform spaces, intertwined by a proliferation of social networking tools. With the roll-out of ultrafast broadband and the imminent development of the Network for Learning in New Zealand, it is timely to consider the extent to which online social networks present both challenge and opportunity for educators' professional learning. This study explores the experiences of educators using the VLN Groups network (www.vln.school.nz) to determine how far this user-generated mode of professional learning might extend professional practices in school. The study considers the ways and the extent to which the affordances of the VLN Groups social network site combine to affect educators' abilities to engage in effective professional learning.

This interpretive study positions the findings within activity theory in order to characterise the actions of educators in the social network and to draw out tensions and opportunities for development. A literature review offers an overview of the field of online social networking in the context of educators' professional learning and outlines the challenges for integrating such informal, user-driven learning into meaningful student-focused professional development. A survey of members of the VLN Groups social network was conducted followed by interviews with four participants of the network. Findings highlight how the typical usage patterns of participants within the social network site reflect a growing familiarity with online ways of working, as well as opportunities to exploit this mode of professional learning more effectively.

This study suggests that the VLN Groups can provide a thriving participatory system that enables educators to engage in an informal kind of professional learning focused on immediate concerns and contexts in their own teaching and leadership situations. It also raises questions related to what 'counts' as professional learning and how self-driven learning can be integrated into a cycle of active inquiry into practice. The study concludes by outlining recommendations for teachers, schools and policy makers related to connecting and coordinating professional learning in ways that maximise opportunities in the digital age.

Key words: social network sites, professional learning, online social networks, educators

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Chapter One: Overview

1. Focus for the Study

This study explores the growing trend for educators to engage in professional learning-related activities using online technologies, such as social networking sites. In New Zealand and internationally there is widespread interest in the use of technologies to enhance learning in schools and the debate has extended to include the way educators also use technologies to support their own professional learning. Such activities occur against a backdrop of extensive research that makes explicit what types of content, context and activities are most likely to lead to positive effects on student learning. This study explores the actions of educators in a New Zealand social networking site provided by the Ministry of Education – the VLN Groups (www.vln.school.nz). Using activity theory as a lens through which to view the actions of educators in the network, this study seeks to determine the extent to which such a network system can play a legitimate role in effective professional learning design for educators.

This first chapter provides an introduction to this study. It describes my personal interest in this study, followed by a statement of the research question. The chapter then describes the significance of the study in the wider context of professional learning in online environments. Finally, this chapter outlines the structure of the thesis as a whole.

2. Personal Motivation for this Study

This thesis is the result of a number of years working in professional learning in New Zealand, in online, face-to-face and hybrid contexts.

On a personal level, I have experienced huge value in the connectedness that online networks have provided, initially via the English Online listserv (<http://englishonline.tki.org.nz/English-Online/Community-discussions>), and more recently via the VLN Groups network (www.vln.school.nz) and global networks such as Twitter (www.twitter.com).

Professionally, I have been excited by the nexus of face-to-face and online learning that blended, or hybrid, solutions might offer to increasingly connected educators. I see value in learning pathways that are personalised, flexible and allow for a more inclusive approach to professional learning. Since 2005, I have specialised in online community of practice development and facilitation, holding roles with a number of different New Zealand organisations in this capacity. My facilitation work frequently focuses on effective professional facilitation for educators and leaders and the way we can integrate technologies into the design of such learning to create more effective and satisfying experiences. I have also been fortunate to work in teams that have been deeply focused on fostering the professional facilitation theories, actions and contexts that lead to student achievement. Notably, these included the Learning Media team responsible for the development of the Literacy Professional Development Programme and the University of Victoria INSTEP programme. Previously, I have also taken post-graduate papers focusing on effective professional learning design in online and face-to-face paradigms.

At the time of writing, I am employed by CORE Education and the Te Toi Tupu consortium that operate across a range of e-learning-focused professional learning contracts, on behalf of the Ministry of Education. The

VLN Groups network is part of the blended learning design in these contracts and I have been coordinating the development and sustaining of the VLN Groups and Enabling e-Learning online communities since 2010. I am also a keen participant in socially networked environments, such as Twitter, Facebook and LinkedIn, and have found personal satisfaction from the opportunities that these platforms have provided to connect, share and explore perspectives on issues.

I am particularly interested in how this seemingly ad hoc, informal way of engaging in educational discussion can be harnessed in ways that are ‘valid’, according to research into professional learning. In a world in which social networking online is frequently championed (sometimes unquestioningly) as the way forward, I am keen to explore the experiences, the opportunities and limitations provided by such systems.

3. Statement of the Study

Studies into effective school change and system-lift place professional development at the heart of the process (Fullan, 2006, 2011; Timperley, Wilson, Barrar, & Fung, 2007). We know that professional development in the service of student learning requires deep factual knowledge, a clear conceptual framework, and an approach to learning that allows adults to define their goals and progress towards them (Bransford, Brown, & Cocking, 2001; Timperley, 2011).

Traditionally, educators’ experiences of professional learning have been determined by the policy makers and school leadership, often constrained by operational budgets and priority foci. At times, professional learning has been imposed on, and out of the hands of, the individual adult

learner, despite decades of research that asserts the value of adult learners having agency and control over the process (Darling-Hammond, Chung-Wei, Andree, Richardson, & Orphanos, 2009; Knowles, Holton, & Swanson, 2011).

In The New Zealand Curriculum, the methodology that underpins effective professional learning has been deliberately articulated, placing an action research - ‘teaching as inquiry’ - process at the heart of the professional learning framework (Ministry of Education, 2007). Be it the teacher in the classroom, the school leader or the professional facilitator, the importance of reflecting on one’s own needs *in relation to one’s learners’ needs* is front and centre. The model spotlights the relationship between the individual and the learners they would seek to impact, and it allows for more individualised approach to professional learning than might previously have been the case. Arguably, however, whole school models of professional learning have not evolved over the last few years and in some cases, the ‘top down’, one-size fits all, episodic model still prevails (Bull & Gilbert, 2012).

In recent years, this traditional model of delivering professional development for staff has begun to contrast sharply with increased attention on personalising the learner experience. Research exploring the impact of mobile technologies, blended learning models and ‘bring your own devices’ in schools have focused on the potential opportunities inherent in the way mobile hardware puts control of information in the hands of the individual. For those educators who have adopted technologies enthusiastically from the outset, personal learning networks, mediated by social network sites like Twitter and the VLN Groups site, might complement (or even replace)

traditional gatekeepers to professional knowledge. There appears to be an opportunity for teachers to gather, connect, share and develop knowledge using individually tailored pathways, unencumbered by the school's annual professional development calendar.

Research in the field of online and blended professional learning recognises the potential for digital technologies to enable a flexible, personalised approach to learning for educators (Dwyer, Farooq, Fusco, Schank, & Schlager, 2009; Gunawardena et al., 2009; McLoughlin & Lee, 2010; Rutherford, 2010). It is crucial, however, to bear in mind that collaboration, connection and conversation online only provide *pre-conditions* for effective professional learning. It is vital that frameworks, such as the teaching as inquiry model, ground the use of social network sites. Researchers warn that practice is unlikely to change “if the process [of professional learning] is purely voluntary, left to teachers to take up or not take up” (Earle, 2007, p. ix). Fullan (2012) suggests that “we have many examples of superficial professional learning communities - educators simply calling what they are doing professional learning ... without going very deep into learning” (p. 1).

The focus, then, of this study explores the way in which a social network site, the VLN Groups, provides an environment that can, and is, being used to support professional learning in ways that might be described as effective. How far the site is used to complement, or even superficially engage with, student achievement-focused learning is of interest. The design of this study has been guided by the following research question:

In what ways, and to what extent, do the affordances of the VLN Groups social network site combine to affect educators' abilities to engage in effective professional learning?

This study has used activity theory to provide a lens through which to describe and understand the relationships between individuals' motivations and goals, the mediating technical environment, the social context of the wider network community and the potential outcomes of network activity. Sub-questions that unpack the over-arching research question draw on the different components of that framework, adapted from Kaptelinin & Nardi (2006):

- 1.1. In what ways might the activities of network members be reflective or typical of effective professional learning?
- 1.2. How might the nexus of varying network components enable/constrain professional learning?
- 1.3. To what extent does the social network impact on professional understandings/skills?

4. Significance of this Study

In 2009, the Ministry of Education contracted the development of a social network site – the VLN Groups - using open source software (Elgg) as a group-based platform that could be used for blended professional learning contracts. From 2010, a number of Ministry contracts, such as ICT PD, the e-Learning Professional Learning and Development initiatives and the National Aspiring Principals' Programme, have integrated the VLN Groups network into their programmes. These contracts dedicate professional time to online facilitation to support and encourage

participation. At the same time, teachers have joined the network voluntarily to connect with educators across the country on a variety of issues. At the time of writing, membership stood at 9291 and there were 663 interest groups. Any educator can join, set up a group, build their network and leverage the growing number of members to have questions answered or to debate issues.

With the roll-out of ultrafast broadband and the imminent development of the Network for Learning in New Zealand (Ministry of Education, 2013) it is timely to consider the extent to which online social networks can support and extend professional learning in ways that we know to be effective. This study aims to spotlight the experiences of educators using the VLN Groups network to explore the extent to which the site enables user-generated, effective professional learning.

5. Structure of this Study

This study is organised in seven chapters. The first chapter has offered an overview of the study with an introduction and summary of its significance in the field of blended and online professional learning in New Zealand. Following this is a second chapter that explains the context of the research, in particular the VLN Groups network, and its intended role within Ministry of Education contracts. The third chapter is a review of the literature in this field, exploring the nature and affordances of social network sites, the context of effective professional learning and the way the system of a network might support learning-focused activity. The fourth chapter describes the design of the research, including why and how activity theory has been used as a theoretical foundation and how the research

instruments and data management support the design. The following two chapters present the findings from the survey and the interviews, and a discussion of the opportunities and tensions emerging in the social network site system, in the context of professional learning. Finally, the seventh chapter offers recommendations, a conclusion, a description of the research limitations and potential avenues for future research in this field.

6. Summary

The first chapter has offered an introductory overview of the direction and scope of this study. It has outlined the focus of the study, its significance, my personal motivations for pursuing it and the research questions that have driven it. It has concluded with a summary of the thesis structure.

The following chapter will explain the context of this study so that the development and intent of the VLN Groups social network site is clearly positioned within the context of effective professional learning in New Zealand. This chapter will also outline the way that the concept of effective professional learning is interpreted in this study.

Chapter Two: Research Context

Professional learning for educators is a lifelong endeavour, sustained through one's career and evolving largely as a result of practice-based experiences. Policy makers internationally consider professional learning to be a key lever in bringing about improvements in education systems. It can be costly and appear to be slow and demanding at times, but recent years have crystallised much of what we now know to be effective in bringing about improved learning conditions for teachers, and by extension, their students (Darling-Hammond et al., 2009; Timperley et al., 2007). Of the aspects identified as contributing to enhanced practice, it is the value of teachers controlling a metacognitive approach to learning that informs this study. The growing interest in blended ways of learning, in online courses and communities networked electronically, invites us to consider the extent to which technologies might mediate the typical models of professional learning in ways that enhance teacher control over the process.

This section offers an overview of the professional learning context in New Zealand, and the place of the VLN Groups social network within that. This section is in five parts. Firstly, it offers an overview of the state of professional learning in New Zealand at the time of this study, followed by a description of the characteristics of effective professional learning. The third part offers a brief history of the VLN Groups social network site, while the fourth part describes how this site evolved to become a feature of educators' professional learning experience. This chapter concludes with a summary.

1. Professional Learning in New Zealand: An Overview

“The most likely way to improve student performance is to improve the quality of teachers” (Hanushek, 2005, p. 14).

This quotation, from a policy brief for the International Academy of Education, highlights the way in which professional learning might be considered the gatekeeper of improved educational outcomes in the schooling system. In recent years, in New Zealand, various models and practices have been developed and implemented by the Ministry of Education to address a variety of disparities in student achievement, with varying degrees of success and popularity. The briefing to the incoming Minister of Education in 2011 outlined the scope and drivers of the overarching strategy for professional learning and development. It focused on reducing disparities for Māori, Pasifika and students with identified learning needs and on growing connections across the system, to mitigate the fragmentation that resulted from the decentralisation of schools under the Tomorrow’s Schools initiative. The decentralisation of schools is significant, in terms of professional learning in New Zealand, because the way in which teacher capability is developed is left largely in the hands of individual schools and their leadership. The Ministry’s centrally funded model for professional learning and development was redesigned in 2010/11 so as to better target students’ needs. Lifting whole system performance, rather than using discrete actions, defines the structure of the professional learning and development (PLD) systems in place at the time of this study (Ministry of Education, 2011, 2012c). The relevance of this PLD model to this study is that many of its programmes stipulate the use of e-learning or

blended solutions, and several specify the use of the VLN Groups as a mediator for that initiative.

No matter which PLD programmes are in place, the central tenets that comprise effective professional learning are well established, based on extensive research into how the brain assimilates new concepts and how adults, in particular, respond to training and development. The next section offers a summary of what is understood to be effective professional learning.

2. A Definition of Effective Professional Learning

There are well-established studies into the nature of effective educational professional learning (Ministry of Education, 2008; Timperley et al., 2007) as well as into the development of online communities of practice for educational professional learning, several in a New Zealand context (Cranefield, 2009; Ham, Gilmore, Kachelhoffer, Morrow, Moeau & Wenmoth, 2002; Keown, 2009; Parr & Ward, 2005; Wing Lai, Pratt, Anderson, & Stitger, 2006). At their heart is the principle that student learning and achievement are most influenced by quality teaching and that, for professional learning to be considered effective, it must make some discernible difference to the students in front of those teachers. Effective teacher professional learning relates to the “black box” (Timperley et al., 2007, p. xxiii) between teacher actions and student achievement which has been extensively investigated over recent years to try and identify what methodologies, content and contexts make most difference in the classroom. It is a nebulous space to pin down. The Best Evidence Synthesis of Teacher Professional Learning and Development (Timperley et al., 2007) outlines an

approach and direction that has since been used to define PLD programmes across New Zealand. Drawing together 97 different studies, the synthesis proposed a framework for analysing effective professional learning experiences, an action-inquiry methodology to guide teacher learning, and processes that are considered most effective for learning within that cycle. The centrality of this synthesis in the New Zealand PLD system have made it an appropriate choice to inform discussion related to effective professional learning in this study.

The framework for analysing the effectiveness of professional learning (Figure 1) describes the contexts that combine in teacher learning to impact positively on student outcomes.

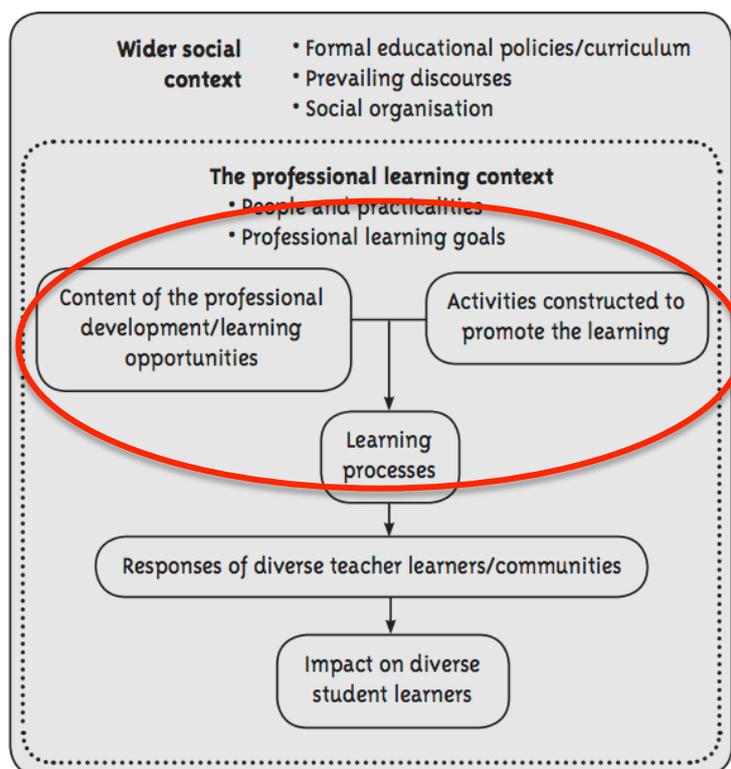


Figure 1. The boundaries of this study (circled) positioned within a framework for analysing the effectiveness of professional learning. Adapted from Timperley et al., 2007 (p. xxiv).

The framework locates learning activities within the wider social context such as the school organisation, the prevailing discourse and wider educational policy. It also reminds us that effective professional learning contexts comprise specific types of content and activities that must inform and be mediated by learning processes – the ‘black box’ - before teachers respond in their classroom actions. Effective professional learning task design incorporates the kinds of content, activities and learning processes that are most likely to set up the conditions for making a positive difference to the way teachers evolve their practice. The learning processes draw on the work of Bransford, Brown & Cocking (2001) who identify effective learning as comprising cycles of cueing and retrieving prior knowledge, awareness and integration of new knowledge, and/or creation of dissonance with current beliefs. The central stages of this framework (indicated by the red circle in Figure 1) are where this study is specifically focused.

Engagement with the VLN Groups social network involves activities that combine particular content, activities and processes, within the broader system of the network itself. Figure 1 also highlights the boundaries of the study in that it does not seek to ascertain the impact of activities in the network on teacher responses or their impact on students.

The activities in the VLN Groups are the key focus in this study. Effective activities are not ‘one offs’ but ideally occur iteratively over time, grounded in “problems of practice, deepening relevant pedagogical content and assessment knowledge and engaging theories of practice on which to base on-going inquiry” (Timperley et al., 2007, p. xli). The methodology that is considered most effective to sustain student focused professional

learning is a cycle of inquiry, based on an action research approach (Figure 2).

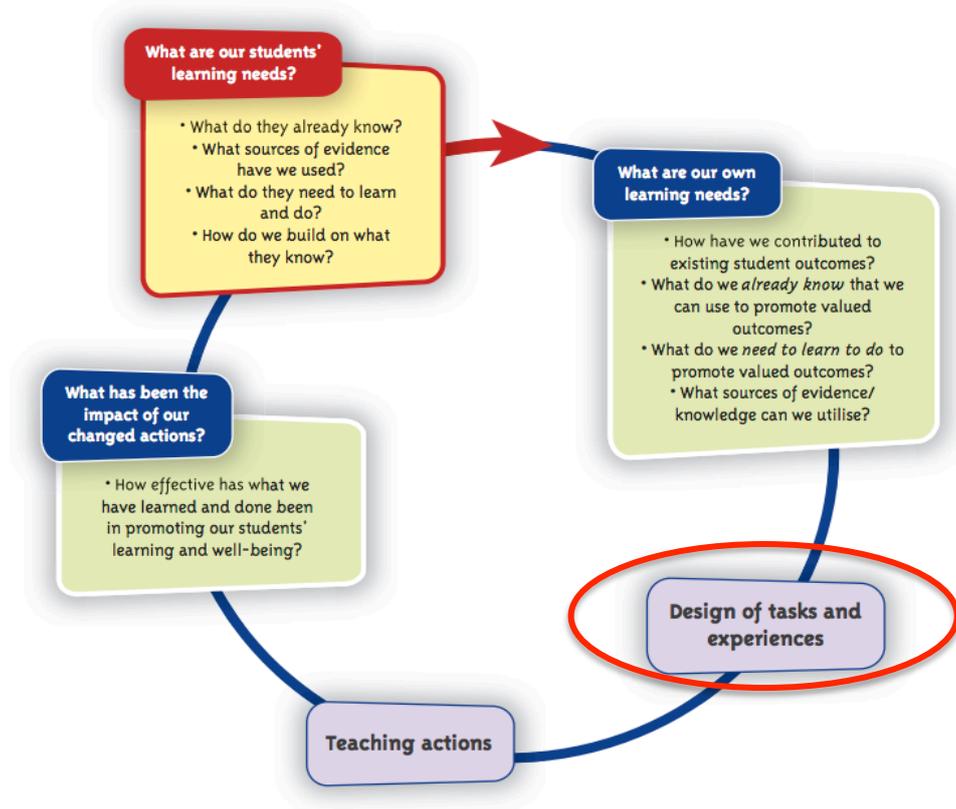


Figure 2. Teacher activity in the context of a teacher inquiry and knowledge-building cycle to promote valued student outcomes. Adapted from Timperley et al., 2007 (p. xliii)

This cycle highlights the way in which effective professional learning is driven by explicit identification of students' needs and these, in turn, define the focus for a teacher's own professional learning. The impact of a teacher's actions, and evidence of that impact, inform subsequent cycles of inquiry. Of particular relevance to this study is that this inquiry is self-regulated and co-regulated, emphasising the active role of the teacher in driving their professional learning to enhance their own practice. This study assumes, too, that this cycle occurs at both student, teacher and organisational levels and that teacher inquiry is likely to be most successful

if supported by appropriate whole school professional learning structures. In Figure 2, the phase ‘design of tasks and experience’ is circled to draw attention to the point at which this study has its strongest connection with the cycle.

Overall, then, in terms of these frameworks and models for effective professional learning, this study is most concerned with three key ideas. First, the types of learning activities that the VLN Groups might afford. Second, the actual activities that appear to be typical of participants. Third, the extent to which these activities have a legitimate place in what is considered to be an effective professional learning framework.

Having explored what effective professional learning might look like, it is appropriate to consider how the evolution of the VLN Groups network has come to be part of programmes of learning for teachers in New Zealand.

3. The Evolution of the VLN Groups Social Network

Historically, the VLN Groups social network has grown out of a broader initiative called the Virtual Learning Network. With its origins in the early 1990s, the Virtual Learning Network comprised schools across New Zealand who networked via video conferencing to offer broad curriculum options (Roberts, 2010). Later, it was subsumed into the Ministry of Education’s ICT unit. While the VLN network of schools has continued to offer programmes of learning for students, in 2009 the Ministry broadened the scope of its virtual professional services and commissioned a bespoke platform (using the open source software, Elgg) that would support professional learning communities online. This became the VLN Groups

social network, a free-to-educators virtual space that affords the creation of interest groups, individual profiles and visible networks between educators. Initially, the Enabling e-Learning initiative (www.elearning.tki.org) was a key driver for its development in 2010, but since then the VLN Groups has been used to mediate professional growth and learning across several projects in the Ministry's PLD model. Increasingly, too, educators are engaging with the network for themselves, rather than as part of a formal professional learning programme. The nexus between the VLN Groups social network environment and the activities of educators who engage in it is the focus for the study.

4. The Place of the VLN Groups within the Professional Learning Landscape

There are then, in New Zealand, a number of factors in play that make this study pertinent. The establishment and growth of the VLN Groups network has occurred at the same time as a shift towards a centrally managed model for professional learning. There are clear frameworks in place to guide the design of professional learning. In addition, the roll-out of ultra-fast broadband across New Zealand, the growth in e-learning, and rise in the use of mobile devices combine to offer further powerful incentives to explore blended and virtual, user-driven professional learning (Johnson, Hedditch, & Yin, 2011). At the time of writing, the VLN Groups network was being used by a range of different programmes within the Ministry of Education's PLD model, including Enabling e-Learning, the National Aspiring Principals' Programme (NAPP), ICT-PD, Te Manawa Pou, He Pikinga Reo and Blended e-Learning. As an indication of the numbers of

teacher involved, the Blended e-Learning programme alone involves over 75 schools across primary and secondary, while the NAPP 2012 cohort includes 263 lead teachers and their schools across New Zealand.

It seems evident that the time is ripe for educational institutions to review their existing models for professional learning. Previously discussed professional learning models emphasise the value of long-term, context-bound professional learning, driven by evidence of student achievement. At the same time, there is a growing trend for teachers to engage in a range of virtual professional networks, and an expectation that this will support them with their practice (Rutherford, 2010). Internationally, reports are increasingly indicating that technology can support the development of those personal and professional competencies required to be successful, metacognitive, adaptable learners (Ala-Mutka, 2009).

Given the aforementioned trends towards connected, user-driven professional learning, it is timely to consider the extent to which existing models of teacher professional development might adapt so that educators are able to take full advantage of the opportunities available. This is the context for this study.

5. Summary

This chapter has contextualised this study in the wider professional learning landscape in New Zealand. It has described the way professional learning is part of a decentralised model but one that is also being centrally managed as part of the Ministry's PLD approach. A definition of effective professional learning has been offered, followed by a description of the

evolution of the VLN Groups network and its place in professional learning contexts.

The next chapter offers an overview of the literature in the international field of social networking in the service of professional learning for educators.

Chapter Three: Review of the Literature

Social networks might be described as a phenomenon of the modern age. There is a plethora of online spaces that aim to make face-to-face social connections visible. The meteoric rise of leviathans such as Facebook, Twitter and LinkedIn stand on the shoulders of predecessors such as Friendster, MySpace, SixDegrees.com, LiveJournal and Ryze.com (boyd & Ellison, 2007). This review reflects the way such sites have evolved to become central to contemporary culture and social interaction. So common are they that they are increasingly used to extend professional discussion. An intention of this review is to establish the field, context and prior research in the area of social network sites in the service of teacher professional learning. A key focus is the extent to which such spaces can mediate an approach to professional learning that is likely to have a positive impact on students' achievement.

This chapter is organised in seven parts. The first two sections explore studies that highlight the way 'web 2.0' and social software have evolved over recent years and how this is beginning to afford an evolution in self-directed professional learning activities. The third section considers the extent to which social software can be an enabler for learning and this includes a definition of social network sites. The fourth section positions socially networked learning in the context of socio-cultural learning theory to consider the way such spaces might inherently mediate effective learning. This section is followed by a consideration of the nature of research into social network sites, and the seventh section considers the system of a social network site and synthesises the affordances and limitations for learning that

have emerged across a number of studies. The chapter concludes with a summary.

1. The Rise of Participatory Software

...the rewards could not be greater, or the risk of failure more grave for educating a citizenry able and willing to communicate with digital tools across differences in a radically interconnected yet divided world (Hull & Stornaiuolo, 2010, p. 85).

The trend towards collaborative, social software is exponential. ‘Web 2.0’ tools such as blogs and wikis seem almost traditional in the face of aggregation tools and multi-platform spaces, intertwined by multiple social networking tools. Industry appears to be moving away from individual workers located in a single geographical context to those who can work across multiple spaces, online, alongside others co-located nationally or even internationally. This concept of social learning does not only regard the technology as a tool for creating virtual shared environments, but also as being underpinned by participatory frameworks that enable sharing and collaboration. It is claimed that online spaces dedicated to learning offer flexible and efficient solutions for isolated learners who want to foster and personalise shared understandings and develop aspects of their practice (Bartlett-Bragg, 2009; Clark, 2010; Johnson, Smith, Willis, Levine, & Haywood, 2011).

While early incarnations of the Internet allowed for communication via broadcast and brochureware, the rapid rise in ‘web 2.0’ social software has allowed people the autonomy and agency, within an “architecture of

participation” (Kamel Boulos & Wheeler, 2007, p. 3), to drive that communication themselves in the form of self-publication, sharing of information, and self-expression. We now understand that we can play a more active role in knowledge creation than ever before and the onus is now on us to play this active role with purpose, not just in creation but also in sharing and, most importantly, critiquing the worth of what is shared and created (Dawley, 2009).

With this evolution of the social web, learners, be they students or educators, increasingly expect to access materials, resources and networks of experts and fellow-learners in ways that suit their contexts, needs and choices of technology. Recent technological advances put personalised models of learning in the driving seat. The trend of ‘anytime, anyplace’ learning is increasingly a key enabler for any institution or organisation that wishes to serve its learners who now expect to use mobile technology and 24-7 connectivity (Johnson et al., 2011). It may be that we have reached the tipping point where it is no longer possible, or useful, to scale learning back to solely face-to-face, highly contextualised, isolated nodes, such is the demand for the information-rich, flexible, socially democratic modes now available to learners.

Future-focused reports predict that personalised, adaptive learning environments, and massive open online courses (MOOCs) will tip into the mainstream in the next two to three years, driven by changing patterns in the way people expect to be able to work and learn, and by education paradigms shifting towards more blended approaches (Johnson, Adams & Cummins, 2012).

This study explores the way in which educators are harnessing such socially oriented technologies in the service of learning-related activities. While the trend may be towards personalised, mobile-device driven engagement in dialogue, is important to consider the extent to which such activity is being integrated into schools and how far it aligns to effective professional learning models.

2. The Changing Face of Professional Learning in a Digital World

Recent years have also seen a rise in research studies advocating a community of practice, networked approach to teacher professional development. In the face of changing educational policies, limited funds and growing appreciation for a socio-constructed approach to learning this may be an approach with a stronger theoretical underpinning than with a raft of empirical studies in its favour (Muijs, West, & Ainscow, 2010; Ward, 2011).

In New Zealand, the de-centralised model of school management places the challenge of managing the constraints of the professional learning budget in the hands of each school's leadership team. The management of teachers' professional learning varies considerably across New Zealand, dependent on a range of factors, including the strength of the school's strategic plan and the effectiveness of the leaders and Boards of Trustees (Bull & Gilbert, 2012). However, in schools, the model for professional learning is still largely bound by the constraints of timetabling, the '9-3' school day, and an out-moded structure of a school year founded on agrarian rhythms.

Arguably, this is a model past its use-by date. The well intentioned, yet episodic, workshops and year long, whole-school focus, in which teachers move lock-step through ‘inquiry’, may no longer be sufficiently flexible or personalised for busy, time-poor teachers to reflect on their experience in ways that articulate a shared professional practice. In many cases, professional learning can be disconnected, fragmented and disproportionately expensive and time-consuming with the results not justifying the financial and time commitment (Darling-Hammond et al., 2009; Lieberman & Pointer Mace, 2010; Whitehouse, Breit, McCloskey, & Ketelhut, 2006).

There are two key principles in terms of effective professional learning that are relevant here: the centrality of the socially-positioned, co-constructed approach, and the importance of learners being able to drive their own inquiries into their practice.

2.1. The value of social, shared professional learning.

Models of effective professional practice assume that effective teacher professional development is not a solitary endeavour, but a socialised one that requires on-going commitment to reflection, inquiry, and shared practice, combining informal and formal approaches. Indeed, the impact of teachers’ learning can only rightly be assessed by the way it brings about changes in student achievement (Ketelhut, McCloskey, Dede, Breit, & Whitehouse, 2006). Schlager & Fusco (2003) argue that the professional learning process requires teachers to be part of a “socio-organisational system” (p. 205) in which stakeholders collaborate for the good of the individual. This is supported in local studies into effective

teacher facilitator practice and learning communities. These studies also suggest that teachers who are more open and collaborative in their approach to teacher professional development also tend to adopt this pedagogical mode with their students (Bonsignore, Hansen, Galyardt, Aleahmad, & Hargadon, 2011; Ministry of Education, 2008; Schlager & Fusco, 2003).

2.2. The importance of agency and self-direction.

We know that effective adult learning hinges upon the extent to which learners have agency over the process. This is a central tenet in the concept of andragogy. In terms of the social sciences and education, *agency* is the ability of individuals, such as educators, to set their own goals and drive their learning independently. It has been shown that the success of our own learning is determined by our own self-efficacy, that our ability to set and manage our own goals is a measure of our metacognitive competence and a pre-determiner for successful learning (Bandura, 1997; Gunawardena et al., 2009). A crucial point to note, for the purposes of this study, is that self-driven learning is vital for sustainable learning, and increasingly this may be facilitated flexibly using online technologies. Although teacher learning, driven by students' needs, must be embedded in a contextualised inquiry, it does not need to be part of a formal, taught activity. Change is inevitable and future proofing impossible. The ability to respond flexibly to a wide range of trends and student needs means that institutions need to support teachers' learning on-demand, using collaborative and organisational approaches as much as the more formalised approaches (Ala-Mutka, 2009). Recent movements, such as unconferences (see, for example, 'ISTE Unplugged' in 2012 (<http://www.isteunplugged.com/>), barcamps and

Ignite sessions ([http://en.wikipedia.org/wiki/Ignite_\(event\)](http://en.wikipedia.org/wiki/Ignite_(event))), point to a growing demand for teachers to gather informally, face-to-face, to explore their own learning questions. Albany Senior School in Auckland, for example, offers teachers opportunities to pursue their own teaching questions, mirroring the approach to students' weekly project-driven learning, instead of the staff as a whole exploring given themes in a lock-step approach (Melhuish, 2012). What is key is that an effective theoretical framework for change underpins such activities.

It seems clear in the studies that the conditions for a fresh view of professional learning are in place, together with a growing enthusiasm for more flexible ways of learning, mediated by ubiquitous access to the Internet. The following section explores the technology at the heart of this study – the social network site – and the way other studies have positioned the design and activity of these sites in relation to learning theories.

3. Technology as an Enabler of Flexible Professional Learning

Current developments in technologies offer an exciting way forward, providing potential solutions to professional learning questions that previously would have been too expensive, time-consuming and unmanageable to solve. It is now possible to bring teachers together, provide 'just-in-time' support, and link to experts or other educators exploring the same complex problems using social software. The local environment in which teachers work is beginning to support this: in New Zealand, the roll-out of ultra-fast broadband, the TELA laptop scheme, and the focus on enhancing the e-capability of teachers and leaders (Ministry of Education,

2012a) are just three examples of ways in which governments are seeking to leverage the potential of modern technologies.

Given that educators' professional learning might offer a balance of modes and approaches characterised by deliberate inquiry into authentic problems and self-autonomy and purposeful connections with colleagues, it is timely to consider what types of technological tools might afford this approach. Social network sites may offer one such avenue. If the New Zealand Ministry of Education is investing in such sites as the VLN Groups it is worth exploring how current research supports this professional learning policy.

3.1. A definition of social network sites.

A note on terminology: this review focuses specifically on social networks *that are online*, rather than the broader concept of a network of people gathering in any context (social network theory). There is a wide variety of definitions, variously termed, 'online social networks' or 'social network sites'. Synthesised, these generally define such online networks as socially constructed spaces that allow members to create and collaborate in groups using semi-permanent comments. Members can establish public/partly-public online identities, and view and leverage a visible set of connections, which are often part of their extended network, rather than communicate with strangers (Bartlett-Bragg, 2009; boyd & Ellison, 2007; Gunawardena et al., 2009).

There is a semantic discussion to be had regarding the appropriate phrasing. boyd & Ellison (2007) assert that the phrase 'social networking sites' shifts the emphasis away from the maintenance of existing

relationships ('networking') to the socialisation aspects. In other words, the way the sites afford the sharing and leveraging of visible connections to support knowledge exchange around defined goals.

It is also important to clarify the difference between 'network' and 'community'. A key difference between a community and a social network is that, in a community, one's *relationship and commitment* to the group is to the fore, and often the relationships are richer for it. Whereas, in a social network site, the *individual user* is at the heart of the structure and everyone experiences the network through a profile and set of connections that revolve entirely around them (Figure 3).

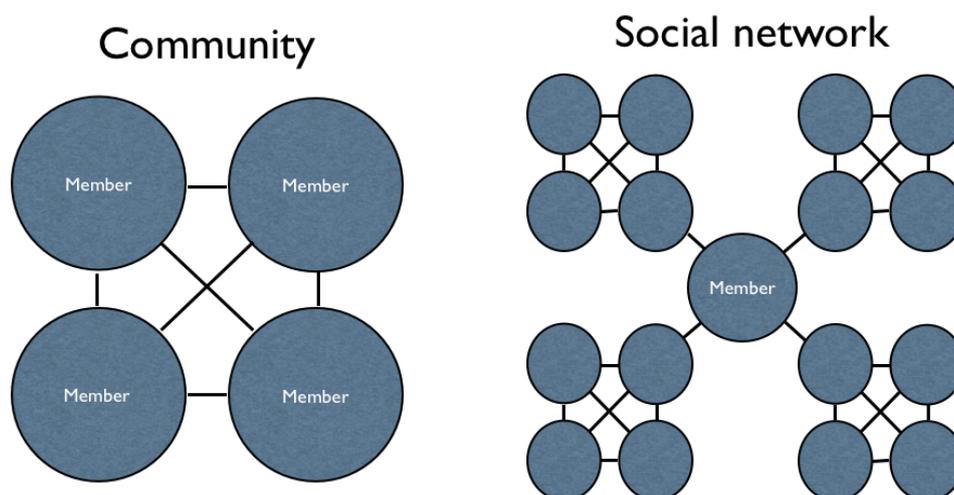


Figure 3. A comparison of the relative position of an individual member in a community and a social network.

So, in the VLN Groups social network site, for example, the ties within the smaller community groups are likely to be stronger than across multiple groups, and therefore richer activities can occur in those smaller community groups than across a network. Sharing is also easier than collectively effecting action (Howard, 2010; Shirky, 2008). A community

can exist in a social network site, but a social network site may not necessarily be a community.

The goal of ‘professional learning’ is widely used to describe the intended outcome of online teacher professional development spaces. Arguably such broad phrasing leads to fuzzy outcomes and a lack of strategic planning for a social network site focused on experiences that should ultimately enhance student achievement. As such, understanding how the purported learning theory underpins the design of a social network site is essential (Breit, Dede, Ketelhut, Whitehouse, & McCloskey, 2009).

4. Social Networking Sites and Social Learning Theory

Across many studies exploring how social network sites can afford learning opportunities there are repeated assertions that there is clear alignment between social network site design and those learning theories that are internationally regarded as being effective for learning (Clark, 2010; Dawley, 2009; Gunawardena et al., 2009; Merchant, 2011).

4.1. Socio-constructivism and social networking sites.

There is antecedent research that grounds discussions of teacher professional learning in socio-constructivism. For example, Timperley et al. (2007) suggest effective professional learning experiences are dependent on wider social contexts, the content, activities and processes in which groups of educators engage, and the impact on those educators and on their students. Socio-constructivism has its foundations in the work of Vygotsky (1978) who observed that we use speech to help solve learning tasks, as well as actions. Moll (1990) reminds us that a central tenet of Vygotsky was that

our understandings manifest themselves externally in our actions and relationship within society. Learning can occur within “mediating structures” that can “facilitate strategic connections” (p. 320). Moll’s study of Hispanic households in Tucson replicates the same social sharing of ‘funds of knowledge’, which lie with different groups or individuals, as might be seen in a social network site. It is not possible for everyone to have the same rich knowledge. The value is that, combined, the knowledge is “available and accessible through social networks” (p. 323). An important focus is also on the way that learning is structured so that it can be applied within one’s own cultural environment to offer a practical way to make a difference. The “harnessing” (Moll, 1990, p. 344) of social resources for transformation is vital. Task development, *mediated collaboratively* through the use of tools (real or psychological) today prepares the learners to act independently tomorrow. The tools themselves are central to the way in which learners can construct knowledge collaboratively and create and curate representations of that knowledge for themselves and others’ use (Vygotsky, 1978).

It is the way that social network sites afford participation and user-generated knowledge creation (rather than the tools per se) that offers educational opportunity. Learning can be mediated through our own cultural and social context. The social network site provides a space that is shaped and re-shaped according to our own cultural perspectives to allow learning to be positioned within authentic contexts (Mason & Rennie, 2008; Seely Brown, Collins, & Duguid, 1989).

Social network sites afford members freedom and autonomy to construct and develop their own understanding in collaboration with others

(Anderson, 2005; Wenger, 1998). This idea of learners having agency is central to these social learning theories. As a result, there are several frameworks that can be used to understand networked learning underpinned by socio-constructive theory, such as Communities of Practice (Wenger, 1998) and the Community of Inquiry framework (Garrison & Anderson, 2003).

4.2. Social network sites and distributed cognivism.

Derived from socio-constructivism, distributed cognivism asserts that knowledge and expertise are not just confined to single individuals but are distributed across, and situated within, many individuals. Within cultures, the development of knowledge is effected through collaboration and exchange, through conversation and “war stories” (Seely Brown et al., 1989, p. 40). These stories and discussions are collated and developed over time, and are often embodied in artefacts of practice from which others may benefit (Wenger & Lave, 1991). A social network site can afford members the opportunity to create, share and curate the knowledge in a shared space, and members’ thinking is mediated and developed by the thinking of others.

4.3. Social network sites and connectivism.

There appears to be a convenient alignment between the social web and learning theories premised on social conventions and protocols. However, it is increasingly argued that these theories have their roots in a face-to-face paradigm that is no longer appropriate for a ‘web 2.0’ world, a world in which technology increasingly shapes our thinking, information

has an abbreviated shelf-life and informal education plays a significant part in how we learn (Gunawardena et al., 2009; Siemens, 2004).

In his discussion of connectivism, Siemens (2004) argues that our understanding of the world sits in artefacts beyond us, and connected to us, rather than the individuals constructing knowledge for themselves, even if it is alongside other individuals. The *ability* to learn, rather than the learning itself, is central here. He asserts the learning is predicated on our ability to locate information, filter its value, and make rational and meaningful connections across bodies of information. In terms of learning within social network sites, the value lies in one's ability to maximize the use of connections, maintaining them to sustain the currency of one's learning, and deliberately choosing the mode and method by which learning will take place at any given moment.

4.4. Social network sites and the challenge of learning.

It is important to note, however, that just because studies may assert the underpinning nature of various learning theories, this does not necessarily mean that the social network sites will lead to professional learning. Social network sites might lack critical voices creating an echo chamber effect. The conversation may be too superficial in content knowledge or process to impact on ingrained practice and tacit capabilities. Access to information does not automatically create knowledge or understanding. It can be observed in some social network sites that “the forms of communication available are for the most part one-dimensional, based in collective circulation of artefacts and individual meaning-making, rather than the co-construction of meaning” (Lewis, Pea, & Rose, 2010, p.

6). Social network sites may be enthusiastically embraced as the newest innovation, but educators may then proceed in ways that fail to embrace the deeper learning or may drop the innovation once something new comes along (Fullan, 2006).

While this observation need not condemn social network sites outright, this sense of multiple people talking to themselves with only fleeting engagement with others' online identities creates the problematic situation of how effective learning might be enabled by such spaces. To 'like' an item, share a resource, or 'friend' a colleague do not, of themselves, make for the kinds of deep, knowledge creation that is informed by learning theories.

We know that the tool can mediate how we learn (Vygotsky, 1978) and social network sites are examples of tools that are increasingly commonplace. The challenge is not to cease to use them because of their supposed superficiality, but to determine ways to *harness their power in authentic learning experiences*. Certainly, such learning experiences in social network sites cannot be tightly constructed and pre-determined on behalf of the members, but there needs to be the capability and possibility for this shared narrative around tacit knowledge to occur (Ala-Mutka, 2009; Lewis et al., 2010). The power of social network sites does not only lie in the individual's ability to share an artefact anytime, anywhere. We should consider the hard-to-define opportunity that meaningful collaboration might be facilitated for the benefit of others within the network and also *beyond* those directly involved in the dialogue.

Rather than looking for a single tool or a single theory, perhaps it is useful to take a more inclusive view. Seely-Brown (2008) argues that we

need to step back, accept that effective education is a broad church and look not for a 'right' pedagogy, but an effective management of the relationship between content, technology and pedagogy.

The following section takes this idea and considers how such social network sites might impact or influence existing models of effective professional learning.

5. The Role of Social Networks in the Service of Teacher Professional Development

The investigation that informs this literature review unearthed a growing body of general discussion and a small number of studies (< 30) into the impact of social network sites on learners. While this is encouraging, there are also limitations presented both by the nascent quality of the field and by the nature of the field itself. It is important to take this into account when considering the assertions made by the studies included in this chapter.

While it is true to say that recent years have seen steady growth in research exploring the potential of social networking sites, these have invariably been discussions of how such sites might be used to enhance teaching and learning in *schools or universities* as well as why they are too risky to be used in the same circumstances (Derrick, 2008; Gibson, 2010; Simonson, 2008; Wright, 2010).

What is less established is research that explores the way social networking spaces, that are deliberately used *in the service of educational professional learning*, impact on member teachers' experiences. While there is much enthusiasm for social networking for personal use, there is a need

for exploration of their impact to be undertaken in professional educational contexts and greater understanding of how social networks - and the role of social capital within those networks - can impact upon, influence and extend teachers' learning over time (Dika & Singh, 2002; Dwyer et al., 2009; Greenhow, 2011; Simonson, 2008). In social networks (face-to-face or online), the social capital is, simply put, the investment of one's time in social relations with the expectation of receiving something in return (Lin, 1999). The greater the social capital of an individual or community, the greater the chance for improved practice and gain. This concept places value on the social contexts of the network members and it is worth considering whether one's social capital has an influence on the extent to which we feel our learning is valued and situated in the network. In addition, "social constructivists see motivation as both extrinsic and intrinsic. Because learning is essentially a social phenomenon, learners are partially motivated by rewards provided by the knowledge community" (Denzin & Lincoln, 2005, p. 21).

The extent to which these online networks can advance teacher learning is not yet well understood, and there are challenges with scaling findings beyond the case studies or sample cohorts. Further limitations present themselves in the form of the researchers' inability to chase data beyond the social network site to the contexts of participants to assess the added value (Wenger, Traynor, & de Laat, 2011).

There is also the question of the impact and status of informal learning, defined by Greenhow & Robelia (2009) as "spontaneous, experiential, and unplanned" (p. 122). Learning, driven by the urgent 'just in time' desires of teachers does not have the same impact as sustained

professional learning with clear outcomes, driven by evidence and inquiry (Timperley, 2011). Informal learning may provide an *enabler* to impact on teacher practice, but it may not have long term influence on student achievement.

The challenge for this study, then, is to understand the motivations of educators and the intent of their dialogue on social network sites within the wider framework of effective professional practice.

5.1. The challenge of gauging ‘impact’.

A central challenge to this study has been to locate studies grounded in reliable empirical data. The number of articles that were descriptive, lacked triangulated evidence or were anecdotal were worryingly prevalent. Frequent, too, was the call in multiple articles for more rigorous research to be undertaken in online models for teacher professional development, in ways that reflect the digital environment of social network sites (Breit et al., 2009; Dwyer et al., 2009; Gunawardena et al., 2009; Merchant, 2011).

Limitations of the research appear to be the result of a number of factors, the greatest being the nature of the context itself. Social network sites are complex, lack a clear structure and conceal as much as they reveal. It is almost impossible to judge and then extrapolate, from online interactions, the impact of that discourse back in the context of a school. Other challenges include: the difficulty of establishing the impact and strength of connections in an online network, the difficulty in scaling studies beyond localised, ethnographic accounts and the cost in time and funds of sustaining network mapping, and investigation longitudinally. In fact, Dwyer et al. (2009) argue that current research methodologies, such as

mapping network structures in sociograms, interaction data analysis and surveying every member, are simply not up to the task, and that we need “a new generation of methods and tools that bridge multiple research traditions and types of data” (p. 5). In addition, while studies often captured rich, descriptive data of individual experiences, the extent to which this type of research is scalable is open to debate. There is a tension, therefore, between the importance of accurately capturing individuals’ experiences using “thick description” (Cohen, Manion, & Morrison, 2007, p. 134) and providing sufficiently convincing evidence to suggest that the use of social network sites for professional learning impacts on student achievement.

Dwyer et al. (2009) argue that teachers will only embrace social network sites if there is evidence that they are effective, but the way they can enable knowledge transfer is currently not well-understood and there is a lack of sound models from which to work. In addition, even if we can generate patterns of behaviour across a slice of a network, we do not know how representative these patterns are of the network as a whole, or networks in general. Nor does this help us understand how to foster or discourage them.

6. Potential Opportunities and Limitations for Professional Learning in Social Network Sites

This section explores the main opportunities and limitations offered for teacher professional learning within the design, organisation and management of social network sites, based on a number of studies that inform this review.

Of the 27 studies accessed, other than the longitudinal study into *TappedIn* (Schank et al., 2007) there were only ten studies on the impact of social network sites in the context of teacher professional development that were sufficiently rigorous in context and empirical design to merit deeper consideration. Therefore, due to the paucity of research studies that focused on socially networked professional learning for educators online, the net was spread wider to include nine tertiary studies, one business training study, and seven adolescent contexts. It should be noted, also, that tertiary students were usually involved as part of formal study for qualifications, and that studies of adolescents' use often went beyond learning to focus on the social capital that online social networking brings to learning relationships (Steinfeld, Ellison, & Lampe, 2008; Yu, Tian, Vogel, & Chi-Wai Kwok, 2010).

The components of social network site in this study are termed *affordances*, drawing on previous definitions of affordance as the properties of a system that make it clear to the user what the system can do and how to use it (Sears & Jacko, 2007). In the context of this study, 'affordances' are those *components* of a social network site that members of that site *use* in order to achieve their goals within that network. In the studies, the affordances of social network sites for professional learning were purported to be many. System components, such as groups and forum threads, can enable collaboration, connectivity, openness and information sharing, as well as providing platforms to generate new knowledge, co-ordinate resources and participation, and access diverse perspectives.

On the other hand, social network sites were also criticised for the lack of quality control, poorly thought through ideas, issues related to

privacy, identity, message control and management of information overflow (Greenhow, 2011). Just because one is sharing information in a social network site does not mean that the comments one provides are theory-driven or particularly formative in ways that impact on practice (McLoughlin & Lee, 2010).

Across the studies, the outcomes were both intended and unintended. Intended outcomes included resource development, enhanced knowledge development in formal studies, professional reflection through peer mentorship and application of learning in face-to-face educational contexts. Unintended outcomes were by-products of involvement such as growth of professional identity and leadership, enhanced technical skills, shifts in tutors' pedagogical understanding, enhanced digital literacy and connections made because of a colleague's involvement through bridging ties. The underlying justification, across the studies for using social network sites for socio-constructive teacher professional development, was that their design can enable democratic, distributed cognitive learning, sharing ideas across multiple communities while reflecting on one's own practice in one's own context (Rock & McCollum, 2009).

The following section organises the opportunities and challenges in three parts: the educators' contexts and activities that cause them to engage with the social network site, the way the social network site, as a tool, mediates those activities, and the wider role that the other members and the culture of the network plays in their experience. These have been synthesised with a consideration of how far they align with effective teacher learning.

6.1. Context and activities.

This section considers the contexts and activities that lead educators to engage in social network spaces for learning purposes.

6.1.1. Educators' contexts and motivations.

Across the studies, contexts for engagement in social network sites were varied. Educators looked for affirmation of practice, advice on experiences within the classroom, new resources, and mentorship. It was evident that social network sites offered a way for, often geographically-separated, people to connect with and learn from others who were previously inaccessible. While several tertiary-focused studies embedded social network sites in a compulsory learning activity, others reflected voluntary engagement from the teaching sector. Whatever the reason for belonging to a social network site, motivation was a strong indicator of engagement, and the motivation was often directed towards the creation of items or learning of personal worth (Minocha, 2009a). As a result of this personal drive, the members of the social network sites in the studies were seen as very much in control of their learning and participation. They possessed, or were encouraged to possess, a willingness to self-direct.

Certainly, the management of information flow required a discipline and clear-sighted focus on learning purpose. The self-directed nature of the learning requires a particular set of personal competencies and dispositions, both towards learning itself and towards the management of the tool and the digital literacies therein. Not everyone has the skills or personal competencies for self-regulated learning, be it in a digital environment, or otherwise. Members of social networking sites may already have had a pre-

disposition toward self-managed learning, particularly using technology, with network members more likely to be more civic-minded, and willing to participate and contribute (Ala-Mutka, 2009; Bartlett-Bragg, 2009; Forte, Humphreys, & Park, 2012; Grosseck & Holotescu, 2011; Gunawardena et al., 2009; Whitehouse, Breit, McCloskey & Ketchut, 2006).

We know that having clear goals aligned to student learning is important for effective learning to occur (Timperley et al., 2007). The social network sites offered individuals an opportunity to use the space in ways that suited those needs and goals, with others doing the same. Members saw their own personalised version of the social network site. The privileging of the individual voice saw a shift in the locus of control, from ‘expert-driven’ learning modes to a more collaborative, participatory model. It is worth noting that such spaces assumed that those who engaged wanted to share ideas, network with each other, be open in the sharing of their thinking, and be able to manage their own learning and information flow. There is a challenge in determining impact on teacher professional development for teachers who, to use a rather pejorative term, lurk, but it would be a mistake to suggest that this is *non-learning*. Studies argued that participation through reading but not commenting was still legitimate for those individuals, if not necessarily for community building (Arnold & Paulus, 2010; Wenger & Lave, 1991). In the *TappedIn* example, where the social network site became self-sustaining, many members, over time, were seen to move from the periphery to the heart of the network (Dwyer et al., 2009). However, what is of interest to this study is the content and nature of activities in the VLN Groups. It is worth noting that effective professional learning appears to require active engagement in practice-based discourse and so there may

be a limit to the impact that reading alone can make to teachers' practice and theories in use. The behaviour of 'lurkers' lies beyond the scope of this study but would be worthy of further research in the future.

6.1.2 Educators' activities.

The teacher's world is a busy one and the profession is far more complex than most non-educators would understand. Even in our increasingly connected world, life for many education professionals can be confined to the four walls of a classroom or school. However, the need to raise one's head over the parapet is vital if teachers are to experience the cognitive dissonance needed to reflect on their practice. Across the studies, the value of networking with educators beyond their own environment was considered a vital condition for experiencing divergent thinking and the importance of an external voice was borne out in more general studies on effective professional development (Berry, Byrd, & Norton, 2007; Dwyer et al., 2009; Ministry of Education, 2008; Timperley et al., 2007).

The goals for engagement in the networks were varied across the studies – resource development, advice, affirmation, strategic planning, skill development and so on – but crucially the networks supported this dynamic shifting range, allowing each member to pursue their own goals towards their own outcomes using differentiated pathways (Minocha, 2009a). Dwyer et al. (2009) articulate the key idea at the heart of object exchange and development in social network site: "The fundamental relationship of interest is that one person has produced something of value that is then accessed by another person, as enabled by the socio-technical network" (p. 16). Artefacts of practice, be they experience, knowledge or physical

resources, must be continually developed if the network is to be a purposeful space.

A key 'hook' for many teachers in the studies was the exchange of resources which on the surface appears to be low-level and not necessarily supportive of enhancing practice. Certainly, Rutherford (2010) queries whether the fleeting, just-in-time nature of involvement can be sufficiently sustained to support deep learning. Rock & McCollum's study (2009), for example, included a group called 'Teaching Texts' which exchanged resources and ideas related to the selection of literary texts for students. They note, though, that the resources and discussions provided a reflection of practice in action and that the majority of discussions related to collaboration, resource development and pedagogy. Examples of others' learning, embodied in artefacts shared in the network, act as powerful spotlights on practice for comparison with one's own approach (Arnold & Paulus, 2010).

Gunawardena et al. (2009) observes the way the resources, or artefacts of practice, were situated with individuals and, at the same time, distributed across the community. The participatory nature of the social network sites allowed members to reap benefit from the resources shared and developed by others in full view of the network. It was, in effect, a shared, public articulation of practice embodied in artefacts that are expressions of that practice.

The development of learning resources or discussions was often part of a cyclical process beyond the context of the social network site. For example, teachers were engaged in personal inquiries such as leading professional development, writing and publishing, reflecting on their own

classroom practice or feeding back to their own school communities, all of which occurred *beyond* the social network site but all of which were impacted by the engagement *within* the site (Rock & McCollum, 2009).

In relation to this study, there are several important points that arise from this exploration of these accounts of educators' motivations and actions. On a positive note, several precursors that are known to be important for effective professional learning are evident: educators seek to engage in learning, they are motivated by problems of practice, and they work with resources that reflect their prior knowledge and current practice. In addition, they are seeking to work with others, often over an extended period of time.

However, while the value of engaging and networking seem to be positive, such actions do not, of themselves, bring about enhancements in practice. The kinds of conversations that would create a positive challenge to one's own practice were often not made clear in the studies, but this would be worth further exploration. Rarely did the activities of the educators critique teachers' theories-in-use, create dissonance or challenge like-minded network members. The risk here is that networking creates assimilation or affirmation of current practice without question. While it is encouraging to read studies in which educators focus on the curriculum, a problem of practice, or a personal inquiry, informal learning and dialogue are not usually sufficient on their own to unpack theory and its place in practice. There were no studies that spotlighted educators' engaging in extended, facilitated exploration of their current practice, managing and resolving dissonance in their practice, or of activities being driven by student assessment information.

The following section explores the extent to which studies showed how the social network site itself mediates and affords the process of engagement.

6.2. The influence of components of the network.

A central feature of social network sites' functionality is that they are inherently participatory in concept and design, embodying the 'read/write' mode that typifies the social web. The tools augment and extend group interaction that may also exist in face-to-face-contexts, allowing for synchronous and asynchronous engagement to occur. While collaboration and networking do not, of themselves, enhance professional practice, they can be precursors for meaningful dialogue to occur (Bolstad, Gilbert, McDowall, Bull, Boyd & Hipkins, 2012; Timperley et al., 2007).

6.2.1. Groups and discussion threads.

The collaboration and networking in the social network sites in the studies were largely mediated through the use of tools that supported group creation. Most social network sites offered the function of groups, allowing for affinity groups to emerge and bond around often quite specific, shared goals and personal inquiries. Lightle (2010)'s study, for example, maximized the *Ning* grouping function to offer tailored, boutique spaces that supported both private and public sharing according to the needs of the members. In *TappedIn*, a range of formats and functionalities, or "gathering places" (Schank et al., 2007, p. 422), allowed for multiple approaches to communication. In these studies, a rich mix of bridging and bonding capital

fuelled successful professional engagement. In other words, there were small, homogenous groups and heterogeneous spaces inhabited by weakly tied members who acted as connectors spanning group boundaries to percolate information across the network.

To extend and retain participation in social network sites, activities in groups usually triggered push notifications to members, resulting in feedback loops that occurred more rapidly than might have happened in other contexts. Learning conversations occurred between members in tighter time scales than would be possible without the technology. Asynchronous communication can sometimes be so rapid it is virtually in real time. Ubiquitous access via mobile technologies meant that members could always be present in the network, feeding the loop in rapid cycles and creating a highly responsive learning environment (Archambault, Wetzel, Foulger, & Williams, 2010; Casey & Evans, 2011; Lewis, Pea & Rose, 2010; Young, 2009).

Within these groups, discussion threads were seen as the chief mediating tools for practice-related conversations. It is the dialogue across the site that allows meaning to be negotiated, creating a common discourse that builds on but also sits outside the individual discourse that each member brings with them into the network. Digital archives of discussions remain available for new members or archived for later exploration. In addition, folksonomies (collaborative tagging, classifying and indexing items online (Peters, 2009)) spread the load in terms of the effort of locating items. The function of tagging, combined with tools that enable bookmarking, resource sharing and curation of objects, allows the network to pool its expertise and distribute the learning across the community.

Asynchronous exchange supports reflection and, combined with increasingly ubiquitous, mobile-supported access, sidesteps traditional time constraints (Arnold & Paulus, 2010). Online discussion fosters face-to-face activity and vice versa, extending traditional learning contexts rather than adding to them, and amplifying the sense of support available to teachers. McLoughlin & Lee (2010), for example, describe the way that, beyond the network, one's professional identity can grow and extend, drawing on experiences developed within the social network site.

The implications of the way these groups and discussions were seen to mediate activity in the studies creates a tension. Research into effective professional learning asserts that the activities (such as conversation or resource exchange) are of far less importance than the content of those conversations. So, while the tool may allow educators to connect and talk, the nature and direction of that conversation is likely to have greater impact, and this was given far less attention in the studies.

6.2.2. Profile pages.

Of interest to this study is the way in which engagement in a professional learning community or network requires a certain degree of openness and exposure of theory and practice. Each educator's contributions in a social network site are mediated through their profile page which requires the conscious construction of one's own identity in a culturally unfamiliar space. The way we present ourselves, manage our friendship performance ('popularity') and control the impression we make on other people affects the levels of trust and safety we perceive to be present in a social network site. Our identities, our connections, the way we leverage

them and the knowledge artefacts that are part of those identities, are seen as important aspects of our social capital in the social network site world (Merchant, 2011). They differ from the way we present ourselves in face-to-face conversation because, online, what we type is persistent, searchable, able to be copied, and can be viewed by unknown audiences (Greenhow & Robelia, 2009).

Privacy and identity are closely interwoven in social network sites in that the ability – or lack of it - to control how one appears online can superficially heighten lack of trust in a site (boyd & Ellison, 2007; Kamel Boulos & Wheeler, 2007). There is a balance to be struck between total anonymity and the benefits of opening up one's identity and sharing data as part of contributing to the network's social capital. Social network site members are usually able to vary settings of privacy and permission in the knowledge that when one chooses to be a member, one is committing to a certain level of openness. There is a clear expectation, though, that membership allows people both an ability and a right to protect anonymity and privacy when they choose (Anderson, 2004; Lewis et al., 2010; Minocha, 2009a).

The studies indicated that the notion of identity is an important part of the shaping process of learning, as members respond to and adjust their own personal and professional views of themselves as part of a continuous feedback loop (Lewis et al., 2010). The visibility of profiles overtly indicates the availability of members to others: I am present therefore I am willing to participate. This conscious shaping and projection of one's profile is clearly linked to the importance of making connections and creating positive impressions on the wider network (Young, 2009). Connections and

networks are fostered using these visible identities, and profiles are shaped to reflect the learning environment's purpose.

There is no doubt that how one appears or projects to others creates conditions that might support open, reflective conversation to occur. The emphasis here, though, is on identity construction as a pre-cursor, rather than creator, of effective learning conversations. Arguably a visible identity is required to allow genuine, open exchange to occur, but it is still the *nature* of the conversation that will make greater impact on practice than how one appears to others.

6.2.3. *Visible networks.*

A common condition of effective learning between teachers is collaboration (Bolstad et al., 2012; Timperley et al., 2007) and so the way that social network sites mediate collaboration through construction and design of that network is of interest to this study.

The studies suggested that visible networks – whereby every teacher can see the connections of other teachers - can enable members to share learning from their own contexts with others to compare, verify, reflect upon and seek support. International examples highlighted the way that teacher practice was enhanced by making tacit knowledge and theories-in-use visible and opening practice up to constructive critique (Lieberman & Pointer Mace, 2010). Networks can enable a “virtuous circle” (Minocha, 2009b, p. 3) generating resources for oneself, sharing for the wider good, collaboratively enhancing the original idea, and the original user then benefiting from the wider network's mutual support.

It was evident across the studies that the visibility of the networks allowed members to “‘see’ each other’s worlds across previously socially defined boundaries” (Lewis et al., 2010, p. 2). Those networks, such as Conole, Galley & Culver (2011)’s *Cloudworks*, saw the open and public nature of the network as an advantage to encourage bridging ties and serendipitous connections. Visible networks reveal "latent ties" (Haythornthwaite, 2005, p. 137) that provide reassurance for members, lowering barriers for contact and creating possibilities for connections not yet made. The visibility of knowledge development can provide powerful models of practice in action, or theories in use, and deliberately foster social capital across the network (Steinfeld, Ellison, & Lampe, 2008).

As discussed in the preceding section on profiles, the ability to leverage the visible ties and activity across those ties appears to create an opportunity for collaboration for teachers in a social network. The studies suggested that the affordances of social networks can help members to maintain a greater number of weak ties than before, thus enabling more frequent access to a wider range of useful information (Steinfeld et al., 2008). Members’ individual interactions serve the community which in turn serve the members as a whole. The activity across those ties, however, is not as important as the content of the exchange. While the ability to connect and collaborate is an exciting aspect to working in such a virtual, connected way, it does not, of itself, lead to enhanced practice.

The previous sections have explored the relationships between the motivations of network members, the nature of their activities and the mediating influence of the tool, as suggested by a review of the studies. The

following section looks more widely at the influence of the other network members and the culture of the network on educators' learning and engagement.

6.3. The influence of the other members and network culture.

A central feature of effective professional learning is the way in which educators not only need to be aware of their prior knowledge and their theoretical positions on their practice, but also need to experience some form of challenge, or dissonance, that is both created and resolved in ways that accelerate improvement. Frequently, that dissonance is as a result of challenge from an external facilitator or peer with whom one engages in critical exploration of problems of practice. A question for this study is the extent to which this kind of critique can occur in a network, or how far the typical exchanges in such a network can inform such conversations in school.

The studies suggested that, in contrast to the notion that networks become echo-chambers and embodiments of groupthink, the studies consistently pointed to the opposite being true: that social network sites allow for varying perspectives and multiple voices to emerge. Rather than creating a sense of disagreement, this was seen as a strength of the network, facilitating the pooling of expertise beyond the constraints of geography, social status or context. Social network sites seemed to provide affirmation and support for teachers who were pushing at the edges of their practice, who were geographically or culturally isolated in their context, or for novices developing their practice. The community of a network comprises a wide variety of abilities and hierarchical positions. Members who may be

leaders in their own contexts may be novices in a network, while leaders may emerge, or be deliberately fostered online, in ways that empower them to seek leadership in contexts beyond the network (Berry et al., 2007; Schank et al., 2007).

However, there exists the challenge of providing peer-to-peer feedback that is sufficiently robust to impact on others' practice. There is also the need for the social network sites to support the exposing, and then archiving, of one's own thinking in a public forum. There was no shortage of empathy and support for co-members in the studies. This was seen as a pre-determiner for creating a safe space for deeper reflection and inquiry. Empathy and support on their own, however, do not impact on practice, and can actually perpetuate poor practice within an echo chamber of affirmation (Berry et al., 2007; McLoughlin & Lee, 2010; Rock & McCollum, 2009). The studies were lacking in discussion around this crucial point of challenge. Even in a network in which people robustly and safely disagree with the each other, this is not the same as an educator deeply exploring and questioning practices in a sustained way over time. There is certainly opportunity for new ideas discovered in the network to feed into such discussion, but there was little evidence of it occurring in a visible forum in the studies. The safety and openness in a network is inextricably linked to the culture and protocols of the network, and discussion of this aspect in the studies now follows.

6.3.1. Culture and community.

For educators to participate in challenging exploration of their practice requires understanding of their own identity, history and personal cultural viewpoints in relation to teaching. A point of interest in this study is the way in which this can occur in a network and the way in which educators feel sufficiently comfortable to expose aspects of their practice to others.

Wenger, McDermott, Richard, & Snyder (2002) define a community of practice as having discourse in a shared culture. That culture, however, is not necessarily one that each individual member immediately identifies with. The culture of a social network site is defined by its members and is unique to that community space. Our own online identities help us to locate others and ourselves within that online space (Merchant, 2011). The interweaving of our online and offline selves may be problematic but it also offers an opportunity to make and reinvent a virtual space in our own image. The design of social network sites allows for multiple participatory modes and practices. Each member of the network brings with them their own situated concerns, cultural preferences and practices related to learning. The social network site develops its own culture that takes into account that of its members and sits beyond it. This cultural development is one that is continually negotiated through discussions and activities across the site. Rules and a sense of safety are expressed through the discourse and shaped by the language of the community members (Gunawardena et al., 2009). The individual profile pages are the expression of the cultures that people bring with them into the site, and offer a way to pin one's cultural colours to the mast. Interestingly, safety was not an overt concern in the studies,

possibly a critical reflection of the studies themselves that were situated within professional, sometimes closed, learning contexts. When activity was embedded in purposeful learning environments, abuse was less likely to occur, while goodwill and a sense of community-ownership built trust and reduced challenging behaviour. Overt reassurance around safety and security can address fears of exposure or of being observed by others in positions of power, such as school managers or statewide education authorities (Bartlett-Bragg, 2009; Minocha, 2009b; Ostashewski & Reid, 2010; Schank et al., 2007; Schlager & Fusco, 2003).

The importance of member ownership of a community or network is related to the idea that educators should have ownership of their professional learning. Schank et al. (2007), referring to the *TappedIn* network, suggest that, "when communities...are supplied hierarchically...instead of developing organically...they are often construed as belonging to others and are typically underutilised" (p. 398). The majority of the studies occurred within 'top down' network models, and the appropriation of the tools by members was key to shifting away from such a hierarchical model. The grass-roots movement is typically more effective than top-down imposition so the more control members have over the way the space responds to their needs, the easier it is to create a democratic climate in the network.

Several studies noted that a tacit rule of such spaces was the expectation that members openly shared, co-created, and passed on knowledge and learning, even if this was at odds with the experiences and expectations for learning that members brought with them. The assumption that our learning behaviours will default to 'social' in order to be effective

can be compromised by the individual learner's own competencies and preferences (for example, propensity for openness, risk-taking, digital literacy, self-motivation), and by the organisational culture in which they seek to make enhancements to their practice. This has implications for the learning for individual teachers, for organisations that promote the use of such networks, and for policymakers who choose to integrate them in statewide professional learning initiatives. This is of particular interest to this study because the Ministry of Education owns the VLN Groups and there is a clear tension between state-owned professional spaces and teachers' own community-driven spaces. According to Timperley et al., (2007) it makes little difference whether involvement in professional learning is voluntary or involuntary but it is possible that network members might feel less in control of their own voluntary participation if they know that the network is owned and overseen by the state.

6.3.2. Collaboration and co-construction.

Of interest to this study is the extent to which other educators provide challenge, support and critique in deliberate, sustained ways in social network sites. Network organisers may provide facilitators, or the admin team may develop tutorials, but members themselves can also give advice and support freely across the site. The studies suggested that the grassroots nature of the social network site creates a heterarchy rather than a hierarchy. There are different categories of roles, all playing equally important parts. There is likely to be a power law distribution in which a small group does a greater proportion of the work (Arnold & Paulus, 2010; Shirky, 2008).

It has been established for at least a decade that a central strength of a social network, online or otherwise, is the potential embodied in weak or latent ties. These can create connections beyond specific social groups and enable the movement of information across those ties through members who are variously described as bridges, brokers, boundary spanners, or connector-feeders (Cranefield & Yoong, 2009; Dwyer et al., 2009; Granovetter, 1973; Haythornthwaite, 2005). These network members who are weakly bonded within a single space move fluidly across different groups, seeding ideas, exchanging information, and making connections between previously disparate groups. The reasons for the importance of studying these ties is that, in social network sites, knowledge exchange does not just sit solely with one person, but also indirectly, through ‘lurking’ or peripheral participation. Different activities and shifts in network structure will result in different relationships with the content. The value here is not in the activity per se so much as in the way the content is taken in and acted upon by another.

The advantage here might be described as a ripple effect, by which other networks of educators’ benefit from and are sustained by individuals’ personal knowledge sharing and learning. In the studies, some networks (such as *TappedIn*) were designed for bridging social capital (for example, multiple meeting places) allowing teachers to act as bridges of information between online and face-to-face environments to provide resources and avenues for further professional inquiry (Berry et al., 2007; Forte et al., 2012; Putnam & Borko, 2000; Schank et al., 2007). By contrast, although he describes the way learning between teachers occurred as a result of this bridging activity, Anderson (2004) certainly queries the extent to which this

bridging to pool and share expertise brings about increased learning opportunities. The issue here is that the enabling of activity between teachers is not enough to alter practice, providing, at best, preconditions for more critical engagement.

In those studies that asserted a positive impact on learning, the role of a facilitator – as opposed to a moderator – seems to have been central to the success of those social network sites (Ala-Mutka, 2009; Berry et al., 2007; Wenger et al., 2002). While many social network sites grow without facilitation – Facebook conversations, for example, are community monitored - the role seems to be necessary in social network sites whose purpose is to enhance and sustain professional practice. Certainly, the value of an external mentor to support and guide teacher professional development is well documented (Darling-Hammond et al., 2009; Ministry of Education, 2008) and Minocha (2009a) notes that even learner-centred teacher professional development needs some form of rigorous, facilitated, structured approach to bring about shifts in beliefs that impact upon practice. A dedicated facilitator is not there to firefight, but rather to provide a supportive yet critical eye on proceedings. Ensuring the closure of communication loops is important to build trust and reciprocity. For example, discussion questions that go unanswered can create a sense of isolation and abandonment. Above all, the social network site facilitator is a balanced, non-partisan voice for effective learning, with the social network site's learning outcomes, mission and protocols to the fore.

There is an opportunity here for facilitators to operate as critical friends, or to mentor others to do so. If external mentorship to support challenge and resolution in teachers' practice is so vital, and if this is to

occur in a social network site, this has implications for the nature of the role of facilitator. In this study, the VLN Groups is a home for several facilitated programmes of professional learning. The roles of virtual facilitators in those programmes must surely be essential for supporting teachers to move through an effective learning process.

7. Summary

This review of a range of studies has drawn together themes related to the way in which social networking sites appear to impact and influence professional learning, a key focus of this study. It has explored the development of participatory software and the enthusiasm with which it has been embraced by the education sector. Studies laud social network sites for the flexibility and ease with which they afford collaboration, connections, and visible learning processes to reduce isolation and sustain access to and engagement in learning. This section also offered a summary of the way these sites can be positioned in relation to learning theories and also presented an overview of how the most-used components of social network site systems offer both opportunity and tension in a learning environment. The studies were of a voice in terms of the way in which such networks might enable adult learners to take an agentic, metacognitive approach to their learning.

However, a synthesis of the studies also raised questions regarding the depth and effectiveness of the types of engagement that occur fleetingly in these spaces. There is the challenge of sustaining online interactions and of researching their impact when they are, by their nature, derived from in-school practice. The studies have highlighted the way in which the social

network sites might be enablers to create *pre-conditions* for learning, but also spotlighted tensions in terms of how far iterative professional learning cycles that have impact on students might be sustained.

This study takes these findings as a starting point. The VLN Groups is a space dedicated and funded to enable effective professional learning, or at least an aspect of it. The extent to which such activity can be a part of the professional inquiry framework discussed in Chapter 2 is the focus for this study.

The following chapter describes the design of the study, including theoretical positioning, methodology, instruments and the management of reliability and validity.

Chapter Four: Design of the Research

This chapter describes the design of the study. It unpacks the interpretive paradigm in which this study is positioned, followed by an explanation of how activity theory has been used to underpin the design and interpretation of the data. The third section describes the selection and design of data collection methods, including the use of an online survey and interviews, followed by an explanation of the coding and analysis processes. Finally, this chapter considers issues related to reliability and validity as well as how ethical considerations were managed.

1. Research Question

As discussed in Chapter 1, the research question was: In what ways, and to what extent, do the affordances of the VLN Groups social network site combine to affect educators' abilities to engage in effective professional learning?

2. Theoretical Positioning

Educational practice is a complex, moral and multi-layered social landscape. This study draws on the notion that the methodology and instruments used to gather data are derived from a clear ontological and epistemological position (Hitchcock & Hughes, 1995). This study is positioned within the interpretive paradigm which assumes that the “social world can be understood only from the standpoint of the individuals who are part of the action” (Cohen et al., 2007, p. 19). It posits that reality evolves as an integral part of human behaviour and therefore that knowledge is mutable, rather than fixed. In this study, individuals' subjective views have

validity. They are considered to be active participants in a socially networked space engaged in their own meaning making. This paradigm privileges the local, subjective context of the VLN Groups and considers the educators' professional learning as inherently a socially negotiated, situated activity mediated by the affordances of the network. The underpinning social science theories for this study – particular social-constructivism and activity theory (discussed in the following section) - are centred on the way individual educators make sense of their learning experiences in the social network. It is appropriate, therefore, that this study sits within an interpretivist paradigm, a worldview embraced by educational researchers from the 1960s/70s (Donmoyer, 2006). The central concern is for the individual's lived experience and to understand what it is like, subjectively, for the network members to experience working in that space. The research question for this study assumes that learning in social networks online is an activity evolving from social and cultural interactions, rather than a behaviourist response, and that the tool, the network itself, impacts on that process (Dawley, 2009; Seely Brown et al., 1989). Therefore, the design and the methodology of this study seek to capture and triangulate the subjective views of the participants, focusing on how their perceptions reveal the wider nature of professional learning in the VLN Groups network.

3. Selection of Activity Theory

This section describes why activity theory was selected as an appropriate lens for the methodology design and analysis of data in this study.

The focus for this study was the nexus at which educators' professional learning meets the mediating influence of a social network site. As established in the review of the literature, a central premise of effective professional learning is that it is a co-constructed activity that embeds knowledge development in a socio-collective experience mediated by various tools. An activity theory lens provides a well-defined window through which to view the stories of the participants. Engeström developed and refined activity theory from early studies of Vygotsky (1978) and Leontiev (1978). It is intended to describe how learning is realised by “a network of interconnected activities” (Engeström, 1999, p. 331), rather than through a single activity. In the context of a social network site, activity theory shifts the focus from the technology, a single person or action, to help explain the *interaction* between the different components of an activity within the system of a social network. It offers “a powerful and clarifying descriptive tool” (Nardi, 1996, p.7) to analyse the socially contextualised stories of the participants, and therefore it is appropriate within an interpretive paradigm.

Social network sites are essentially participatory, deliberately designed to allow people to work together to construct knowledge. They offer affordances that purportedly enable those socio-constructivist approaches that are central to effective professional learning to occur. In an online environment, additional enablers or constraints come into play, such as the design and affordances of the online environment itself, the role of community, and the dynamics in the network of individuals.

This complex phenomena of individuals learning within a technology-enabled network is challenging to describe, let alone measure. In

studies that seek to understand the nature and dynamics of people's activities in social network sites, activity theory is increasingly used a lens through which to describe how these socially-constructed learning activities are enabled or constrained (Barab, Schatz, & Scheckler, 2004; Clapham, 2011; Nardi, 1995).

Activity theory provides a way to understand localised practices, their contexts and tools together with the system in which they occur. It has evolved from a well-established theoretical lineage, drawing on earlier socio-constructive theories that understand cognition as being derived from individuals' experiences within social contexts beyond themselves. It also seeks to explain the change in people's behaviours over time (Engeström, Miettinen, & Punamäki, 1999). It focuses on the way activities are "social practices oriented at objects" (Engeström, 1999, p. 380). The theory can inform examination of activity in social network sites as a way to describe how each knowledge-oriented action on the part of each member is mediated by other users, site protocols, interactions and artefacts (Conole et al., 2011; Young, 2009). An adapted version (Figure 4) of the activity theory system has been used as a theoretical lens on the activities in the VLN Groups and to inform the analysis of data gathered from study participants.

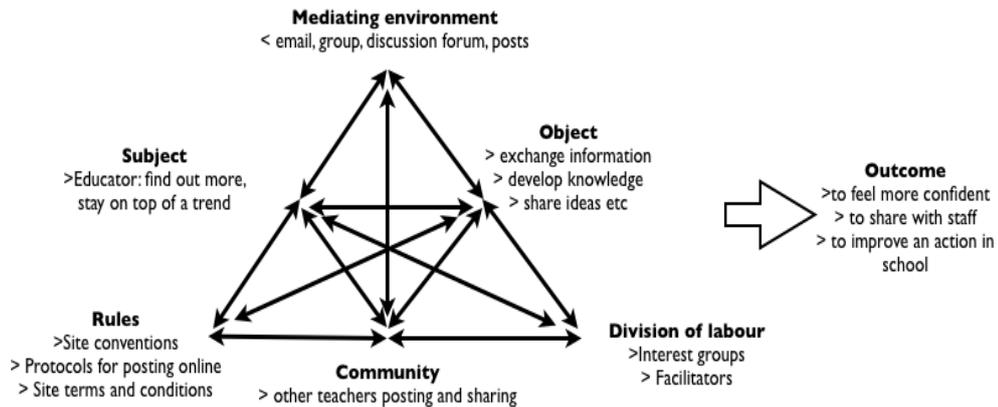


Figure 4. Activity theory diagram for the VLN Groups. Adapted from Engeström (1999).

The activity (the basic unit of analysis) has primacy over the subject and object, and it is the main source of development. The *subject*, in the case of this study, is the individual educator: they initiate, they have intentions and needs, they have agency, and “the ability and the need to act...[through] meaningful goal-directed activities” (Kaptelinin & Nardi, 2006, p. 35) to bring about development and transformation of their practice. The key principles of activity theory state that the *objects*, that which they are trying to achieve, are what motivates them and gives meaning to what they are doing. Activity through technology is “embedded in meaningful context[s]” (Kaptelinin & Nardi, 2006, p. 77). The *rules* are the norms, protocols and conventions that either implicitly or explicitly govern behaviours. The *community* is the other participants who share in and affect, in some way, the activity in question. *Division of labour* refers to aspects of an activity that are mediated by shared or coordinated participation by others.

In the context of this study, consideration of the different components of activity theory takes into account the systemic nature of site

members' activities and learning as they work towards particular outcomes. This system provides a lens or crucible for naming and characterising the dynamics of the community while still preserving a sense of the network as a whole (Barab et al., 2004).

There are two distinct reasons for selecting activity theory as a lens for the study of praxis in the VLN Groups. First, it offers a way to identify and reify the components of the educators' experiences in the VLN Groups and the way in which they work together to mediate the activity of the subject. It is important to note that each component in the system is determined by the action of each educator. The theory becomes a lens for viewing this activity. It was, however, important in this study not to use the activity theory system to compartmentalise what is actually a unified system. Rather, activity theory helps to describe the way multiple interactions *between* the components of this user-centric social network site offer incessant reconstruction of activities depending on the different components in the system (Engeström et al., 1999). The community of other people in the VLN Groups is part of the interaction, part of the activity itself. Each action is a transaction and there is no 'one' way to view each aspect of the system because it looks different, is reformed, with every activity (Barab et al., 2004). Of interest to this study is the extent to which these diverse, personalised experiences, different for each user each time, support effective professional learning experiences for the educators in the network.

Second, activity theory has been used in the study because it helps to characterise the tensions, potential failure or negative consequences in the system between the different components as they interact. The broken arrow

in Figure 5 depicts an example of a tension in an activity which might be, for example, an educator being unable to achieve their intended goals in an activity in the network.

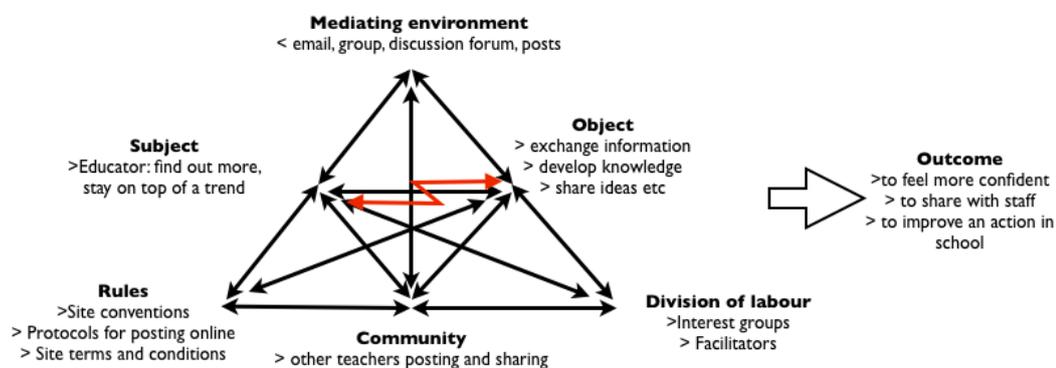


Figure 5. Tension between an educator and their goal within an activity, adapted from Engeström (1999).

This tension is described by Engeström as *contradiction*, pointing out that the system is often at its most powerful when it highlights inconsistencies and challenges within it. Contradictions can be the impetus for change, highlighting aspects that could be improved and driving system innovation (Engeström & Cole, 1993). In this study, tensions occur for educators at different points in the system and signal, for example, where there is room for development of the VLN Groups, a need to redesign professional learning, or opportunity to review the way the site is integrated into teachers' inquiries.

Therefore, this study takes as its starting point the actual experiences of individuals, rather than an assumption of how professional learning should be done. The way in which teachers go about achieving their goals is strongly situated in their personal contexts. A key aim has been to explore the way in which components of a social network site mediate social

interactions in everyday professional dialogue. The application of activity theory to learning in social network sites addresses learning as both internalised and externalised, individually and socially managed. It highlights the way in which the involvement of other users, the tools in use and the socially-created artefacts, such as discussions, resources and so on, mediate the way network members act. Whether each activity, as a whole, advances and supports models of effective professional discourse is the central question.

4. Methods and Instruments

This section describes the selection and design of the online survey and interview processes, highlighting how the aim of the design was to capture the lived experiences of the VLN Groups participants.

The design of this study has precedents in the design of similar studies into social network sites. The studies reviewed for this study (in Chapter 3) tended to arise from a need for participatory research and were grounded in naturalistic epistemologies. These studies adopted interpretive and ethnographic research paradigms. They usually attempted to explore impact using mixed methods, such as qualitative case studies and user surveys triangulated with quantitative data generated from site traffic, user data, activity logs and so on. Mixed method studies provided a rich, complex picture of impact and these were by far the most convincing in the way they described how a social network site might support learning (Berry et al., 2007). As other existing studies in the interpretive field have done (Dwyer et al., 2009; Parr & Ward, 2005; Simonson, 2008) this study uses an ethnographic, mixed-methods research design. This approach allows the

individuals to participate in the construction of the data, while the analysis process privileges the lived experience.

Data gathering comprised an online survey, interviews to inform the development of vignettes, and collation of quantitative data from the site itself (including membership data and traffic). Although the context of this study was an online environment, the research itself was conducted away from the VLN Groups site itself using traditional instruments. While consideration was given to the pros and cons of an online survey, the key influence to take into account was the ethical nature of access to private/public data, which shall be discussed later.

4.1. Selection of a survey.

This section explains why an online survey was chosen as a key data-gathering instrument.

Surveys are a research method designed to gather data at a single point in time to establish the nature of a particular set of circumstances. They can gather both qualitative and quantitative data reasonably expediently across a target population in a largely standardised way. This can help researchers make generalisations with a degree of statistical surety (Cohen et al., 2007). The survey aligned with the methodology and underpinning paradigm in that the questions requested firsthand evidence of recent experiences working in the VLN Groups network, and they asked about experiences of which participants had clear, personal knowledge (Fowler, 1998).

The VLN Groups membership stood at 4822 at the time of data gathering (October-November 2012) although the number of members

actively posting was approximately 10% of that, with the remaining members quietly receiving email notifications from any groups they had joined. Precise data on active membership and individual group membership was not available. The selection of a survey meant that potentially a large number of members could provide their feedback on their experiences in a way that was efficient.

4.2. Design of the survey.

The intention of the survey was to gather a ‘broad brush’ response to aspects that would address the research question, with a particular focus on the ways the site was being used and for what purposes in relation to educators’ professional learning.

There were 20 items, combining open and closed questions, ranking and Likert scale approaches. There was opportunity for participants to provide qualitative responses to most items should they have wished. A central concern was to capture the extent to which educators felt that the activity in the VLN Groups contributed to effective professional learning for them in their practice. The questions were mapped (Appendix E) so as to address those key levers for effective professional development described in Chapter 2, through the lens of activity theory.

The consent and information were provided on the landing page of the survey (Appendix A) and participants could complete questions anonymously, unless they indicated they were willing to take part in an interview. The survey was developed and piloted twice, testing for bias, length of time to complete, how clearly the questions articulated the focus, the usability, and the type of data that might be generated (Cohen et al.,

2007; Oppenheim, 1992). As a result of the pilot, the phrasing and order of some questions was adjusted for clarity. The survey is included in Appendix B.

4.3. Selection of participants.

There was a challenge in selecting the sample for the survey. The survey invitation was shared via multiple channels online. This was likely to appeal to those already in those spaces or to those who were sufficiently engaged in the VLN Groups to feel they had a vested interest in participating in the survey. Therefore, it might be argued that there was a risk of sampling bias in that the survey would most likely attract ‘early adopters’ who were comfortable providing information in this way and who were already reasonably engaged in the activity of the VLN Groups. A potential advantage, however, is that the survey might reflect the experiences of those in the vanguard who were already experimenting with integrating the use of social network sites with their professional learning. This might surface the inherent possibilities of working in such a way.

The criteria for selection were not limited to particular demographics. Anyone who was a registered member of the VLN Groups could complete the survey. Non-probability sampling was used to select participants in an attempt to capture the widest representation of the active users. This was also in the knowledge that purposive sampling could be used for the selection of interview participants (Cohen et al., 2007). The participants were all educators, working across the New Zealand schooling sector, and were most likely to have involvement in leadership or e-learning

initiatives in their school, due to the nature and focus of the most active groups at the time of researching.

I had hoped to capture a sample of at least 50 site members. After four weeks, the survey had captured 67 responses. The completion rate of those who responded to the entire survey was 83.6%. This could be a reflection of time pressure, survey length, or interrupted network connection. There was no single item that prompted participants to exit the survey.

4.4. Management and process of the survey.

A link to the survey, with an introductory text and video invitation from me was shared in the VLN Groups main news blog, which meant that it appeared on the dashboard of every member for the period of the survey over four weeks. This did not, however, trigger an email to every member. Non-active members would not, therefore, have seen their dashboard unless they visited the site. Links into the survey were also shared weekly on Twitter [1873 recipients] and Facebook [93 recipients], and there were indications that links were on-shared by other members of the network. In addition, I sent the survey to members of the network who had posted recently. Data were gathered automatically by the survey tool and coded throughout the data-gathering period using a spreadsheet. The final total of those who completed may be a reflection of the timing - the end of the school year is a notoriously busy time for teachers – as well as the ‘hit and miss’ nature of social networks. Despite the survey invitation being shared multiple times, I could not control for the way in which network users access or filter their own feeds.

4.5. Selection of a semi-structured interview.

This section describes why an interview tool was chosen and is followed by an explanation of how it was designed and managed.

To access the personal experiences that would shed light on what was happening for VLN Groups members, it was appropriate to select a case study – or vignette – method. Case studies aim to capture fine-grained reality and rich description of lived experiences. While they may lack a degree of control in terms of bias and subjectivity, they can offer a way to catch the messiness and “wholeness” (Cohen et al., 2007, p. 253) that other methods may miss.

To explore the selected cases, the selection of an interview was appropriate for this study in that it is literally “an inter-view, an interchange of views between two persons conversing about a theme of mutual interest” (Kvale, 1998, p. 2) and it privileges the situatedness of participants’ knowledge and experience. In addition, the privileging of the subjective experience lies at the heart of the socio-constructivist and activity theories that underpin the research.

As far as possible, while we sustained a semi-structured style during the interviews, I adopted an interview guide approach with an underpinning set of standardised questions that allowed for alteration of sequence during the evolving conversations to avoid unnecessary repetition of material (Cohen et al., 2007; Patton, 2002). The questions were designed to deepen the aspects explored in the survey and were structured using the related components in the activity theory system to try to understand the different characteristics and tensions in a typical learning activity in the VLN Groups.

In terms of the research question, I wanted to capture the complexities of the individuals' experiences in their use of the VLN Groups tool. Although the subjective nature of the interview, and the scope of the study, limited the extent to which I could track the impact of the activities on their practice in school, I was interested to find out whether they *perceived* engagement in the VLN Groups to have added value to their work.

4.6. Design of the interview.

The interview questions aimed to explore more deeply the opportunities and challenges that educators faced when using the social network site for professional learning, as well as trying to establish what kinds of learning were happening for them. The questions explored the relationship between professional contexts in school (such as learning goals and personal inquiries) and the potential impact of educators' involvement in the network on those contexts. Using a similar grid to the one in Appendix E, I mapped out 20 questions with a focus on the related components of activity theory, to explore their experiences more fully. I developed a semi-structured interview that would allow for attention across the different areas but would offer enough freedom for the interviewees to pursue areas of interest or to unpack their ideas as they wished. The questions were open questions that invited explanation and these were piloted with two colleagues. As a result of the pilot, question phrasing was edited for clarity. The interview questions are listed in Appendix D.

4.7. Selection of interviewees.

The results from the survey were used to generate criteria for contacting a purposive sample of five people from those who indicated they would be willing to be involved. Initially I had intended to interview a group of educators who represented the full cross section of the VLN Groups. It was clear from initial coding of the survey data that the sample would not be representative of the VLN Groups membership as a whole, but rather would represent those who used the network reasonably regularly. Therefore, I aimed to purposively sample those to be interviewed “on the basis of [my] judgement of their typicality or possession of the particular characteristics being sought” (Cohen et al., 2007, pp. 114–5). From the 62 who indicated a willingness to be interviewed, I invited five who represented the demographics of the participant sample (Table 1).

Table 1

Demographics of the Interview Participants.

Participants*	School Sector	Role	Region Type	Years in Education
Toby	Secondary	Middle Manager	Semi Urban	10-20
Julie	Primary/ Secondary	PL Facilitator	National	20+
Amanda	Primary	Senior Lead	Major Urban	20+
Heather	Primary/ Intermediate	Classroom Teacher	Rural	10-20
Carol	Primary	PL Facilitator/ Teacher	Rural	10-20

**Note: Identities of the participants are pseudonymised.*

Ultimately I aimed for a sample of people that would help unpack the way the mix of components in the VLN Groups might work to enable/constrain professional learning in different sectors and roles.

4.8. Management and process of the interview.

Five prospective participants were sent an email with a formal invitation to participate, together with the informed consent and information on the research [see Appendix C]. Only one did not reply, and a follow-up invitation to another educator was accepted. All participants were given the choice of interview mode (face-to-face, telephone, Skype) and Skype was the tool of choice for them all. They agreed to be recorded during the conversation. Questions were sent to them in advance so they could familiarise themselves with the structure but they were not required to

prepare any answers. Each interview lasted approximately 30 minutes with additional conversation time to set them at ease.

5. Data Management

This section presents the processes used to code and analyse the data used in this study. It also describes the measures that were in place to ensure the study was reliable and valid. The latter section concludes with an explanation of the ethical management within the study.

5.1. Data coding and content analysis.

Coding and analysing qualitative data involves the methodical organisation, categorisation and explanation of data, in terms of the participants' own explanations, and inducing or ascribing categories to notice themes and patterns (Cohen et al., 2007). This study used a content analysis process which drew on a description-analysis-interpret-display approach (Brenner, Brown, & Canter, 1985). This allowed for multiple layers of categorisation, incubation and synthesis of the data. I conducted the coding process in its entirety.

Stage 1 of the coding process used an inductive approach to generate individual coding units. This approach, which allows for the generation of meaning from the data, sits well within the interpretive paradigm. This focused on the experiences of the individuals rather than a pre-conceived theory. I wanted to ensure that the coding process remained open to “what is actually happening and ...to listen, observe and thereby *discover* the main concern of the participants in the field” (Glaser & Holton, 2004, p. 44).

The coding units were derived from descriptive labels generated by the content of the data. For example, a survey comment describing the use of groups in the social network might be assigned the code 'group'.

In Stage 2, the assigned codes from the first iteration were then categorised according to emergent themes inferred from the data. There was an element of constant comparison at work as survey data were reviewed and compared to interview data, and initial categories revised accordingly (Cohen et al., 2007).

Stage 3 used an axial coding process (Strauss and Corbin, 1990) in which the categories generated in Stage 2 were filtered and organised using the components in activity theory. The purpose of this was to understand how different aspects of the VLN Groups system characterised and mediated educators' activities, as well as to look for relationships and tensions between them.

In a final stage, coded and categorised data were quantified using the same activity system. This exploratory data analysis process generated tabular representations of responses according to type and frequency.

6. Reliability and Validity Management

This section describes how reliability and validity were managed throughout the study including the ethical processes. This study, in part, adopted a content analysis approach to explore and construct new understandings from the thick data through induction. Validation of interpretivist findings cannot be 'tested' or generalised. Instead, reliability has been managed in three ways.

First, the design of the study was based on antecedent work using existing frameworks (Anderson & Arsenault, 1990; Eisner, 1992) and drew on recognised ontological and epistemological views. Macro theories from the social sciences, particularly socio-constructivism and activity theory, grounded the research as they have done in the work of others who have set out to expose the way socio-constructivist learning and communities are mediated by technologically-enabled environments (Allan, 2005; Clapham, 2011; Clark, 2010; Grahame Moore, 2008; Joinson, McKenna, Postmes, & Reips, 2007; Kamel Boulos & Wheeler, 2007; Mason & Rennie, 2008; Wenger, 1998).

Second, the methods selected for data collection and analysis were appropriate to the paradigm and can also find precedents in the studies cited above. The intention of the findings is that they appear trustworthy and ethical rather than to produce results that are replicable (Lincoln & Guba, 1985; Maykut & Morehouse, 1994; Patton, 2002). The mixed methods approach aimed to create thick description by triangulating case study data with qualitative and quantitative survey responses (Golafshani, 2003; Patton, 2002). Interview questions were derived from concerns emerging in the surveys, and interview data were negotiated with the participants who were actively involved in verifying the transcripts. I transcribed the recorded interviews myself, a process that inevitably becomes a “selective transformation” of the original conversation (Cohen et al., 2007, p. 367). I had video and audio recordings to help capture the nuances of the conversations as accurately as possible. Transcriptions were sent to the participants for approval, editing and additions before coding and analysis began.

In addition, the review of the literature shows how this study is located in wider research fields that explore professional learning in digital environments. In terms of the processes themselves, the content analysis approach has aimed for descriptive validity as a way to ensure reliability, while, with only one researcher in the study, my accuracy and preservation of the credibility of the data sought to manage internal validity (Rutherford, 2010; Wright, 2010).

6.1. Ethical issues and their management.

Research is an ethical endeavour from start to finish; validity and reliability are founded on it. This section describes how the ethical management of this study sought to address issues of consent, bias and imbalance of power.

6.1.1. Informed consent and confidentiality.

The importance of autonomy and the giving of informed consent lie at the heart of ethical behaviour particularly when researching online where the lines between public and private are blurred (Colvin & Lanigan, 2005; Wilkinson, 2001). Researchers must take appropriate steps to ensure that all participants understand the nature, purpose, and steps of the research, as well as confidentiality and the right to decline or withdraw at any time (The University of Waikato, 2008; Wilkinson, 2001). Both the survey and the interviews provided information on the nature of the study (Appendices A and C), were anonymous unless the participant supplied their name, and all identities were concealed with pseudonyms. Completion of the survey indicated the giving of consent, and the interviewees completed consent

forms (see Appendix C). This study does not use people's identities or include demographic details that would enable others to identify participants.

In terms of the management of the data, survey responses were exported from the online tool, stored in the database alongside interview transcriptions and analysis, and removed from the online tool.

6.1.2. Access to participants and imbalance of power.

There is a plethora of research related to the opportunities and challenges of the 'insider researcher'. For educators, the role of participant in research is often motivated by a desire to gain insight into situations to bring about improvements. When the researcher is also a participant, as I was in the VLN Groups, a range of issues present themselves in terms of reliability and ethics, such as bias, access to participants' information, and a sense of obligation to associated parties. There are dual roles in play. Researchers "inhabit the world they are researching, and their influence may not be neutral" (Cohen et al., 2007, p. 410) so this was a key aspect of reliability and ethics to be managed in this study.

A central concern was the perception that my role as online facilitator in the VLN Groups, working on behalf of the site owner (the Ministry of Education), might bring undue influence to bear on participants' willingness to provide their information or on the nature of the responses themselves. In addition, there was a potential perceived risk that my administrative role in the VLN Groups might appear to give me access to participants' information. My role and coordinator's status in the community might have lead to people participating out of a sense of

obligation. While my role as participant-researcher in a community may have added to the richness of the description, it may also have biased the data interpretation. I have aimed to be self-reflexive about my own philosophical assumptions and make the extent of my involvement overt.

It was my responsibility to be aware of these circumstances and act responsibly and sensitively when working with respondents. In both the survey and the interviews, participants were informed that they were free to withdraw from the research at any time and to withdraw their data up until analysis commenced. This helped me to manage the ethics related to my access to participants. I mitigated the issue by making a full declaration of my role in the informed consent procedures. In addition, I restricted the scope of my research to information provided within the study, and did not use artefacts provided by community members in the public forum as part of their day-to-day exchanges, unless specific permission was granted. The data they provided was sufficient for me not to need to go further into their posts so this was not required.

A perceived imbalance in power was managed by ensuring that the voluntary nature of the research was made overt and that this was research for a personal thesis, rather than, for example, a Ministry of Education contract. It was made explicit that there would be no coercion to complete or answer any questions, and the interview would be partially open. This allowed participants to choose their pseudonyms, and construct and edit the discussion in the interview transcript up to the commencement of data analysis. It was also made clear that their feedback was part of a participatory model and that it would potentially support improvements in their own community. I sought to manage potential bias through piloting

balanced, open questions. Content analysis took account of the words of the participants combined with the use of external markers, such as the activity theory components.

In addition I planned to address issues related to cultural responsiveness to Māori and Pasifika, by arranging to consult with Margie Kahukura Hohepa (Associate Professor, Faculty of Education, University of Waikato) regarding the most appropriate protocols that should be used to prepare for and conduct the interviews so as to reflect Kaupapa Māori research principles. This was not required. I used Te Reo Māori and Samoan in all letters of information. One participant commented that that had been the impetus for her to complete the survey.

6.1.3. Bias.

There was the possibility that my employment with CORE Education and the Te Toi Tupu consortium (who had the contract to manage the VLN Groups) together with my work on behalf of the Ministry of Education, might have given rise to bias, or the perception of bias. This was managed by deliberately being aware of this, making my role overt in information to participants, and asking questions of the data interpretation.

7. Summary

In summary, this section has described the way this study was positioned within an interpretive paradigm and how it has used activity theory as a lens to inform the design of the methodology and data tool selection. The processes for selecting and managing the online survey and interviews were explained followed by description of how reliability,

validity and ethics were managed, with a particular focus on the role of researcher-participant.

The following chapter will present the findings of the research in relation to the way the key components of the VLN Groups system combine: the typical motivations and objectives of the educator-members, the way their activities are mediated by the network as a tool, and the way the wider social network site system is integral to these activities in the context of effective professional learning.

Chapter Five: Findings

This section describes and synthesises key data from the survey and the interviews. It is organised in seven sections that combine to reflect the nature of individuals' activities in the system of the network, as reflected in activity theory. In relation to the activity theory system, the first two sections explore the relationship between subject and object. That is, the contexts and motivations of the participants, such as their reasons for joining and using the VLN Groups and, second, the typical characteristics of their activities within the site, including what they were trying to achieve and gain from being involved in site activities. There is a particular focus on how the activities align with concepts related to teacher inquiry and the professional learning models described in Chapter 1. Following this, the findings then move to explore the relationship between the individuals' activities and experiences and the wider system of the VLN Groups. The third section looks at how the wider community components, such as the groups, network connections, site protocols and the presence of facilitators, impacted on the learning experiences. The fourth section looks at indications in the data of the impact of involvement in the social network site on participants' schools or in their practice. This is followed by an exploration of the kinds of tensions and challenges experienced by the educators and between different components of the VLN Groups system as they tried to achieve their goals in the site. The sixth section presents four vignettes that explore the personal experiences of the educators who were interviewed in terms of their motivations, activities and outcomes of their involvement in the VLN Groups. The names of the interviewees are

pseudonymised to preserve their anonymity. The chapter concludes with a brief summary of the findings.

1. Educators' Contexts and Motivations

This section explores the participants' contexts in relation to their roles in the school sector, and their motivations for using the VLN Groups. In terms of activity theory, this first section takes the individual – the subject's - motivations that drive each activity as the focus. There is a clear interrelationship between the individual's motivations and their goals, or objects. The 'subject' involved is the key driver, fuelled by needs and motivations associated with their contexts (Kaptelinin & Nardi, 2006). In this case, the subjects are the educator members of the VLN Groups and their motivations and needs give impetus to their activity in the network. I was interested to identify the educational experience, geographical location and roles that might have played a part in the experience for participants as several studies asserted the importance of social network sites in reducing isolation. The findings are presented in Table 2.

Table 2

Demographics of Survey Participants

Demographic Data by Category	Percentage of Responses
Types of institution	
Early Childhood	3.4
Primary (Years 1-6)	56.9
Intermediate (Years 7-8)	27.5
Secondary (Years 9-13)	17.2
Kura kaupapa Māori & Wharekura	0.0
A School with Special Character	1.7
An Educational Organisation, other than a School	24.1
Types of Roles	
Principal	3.4
Member of a Senior Management Team	25.8
Middle Manager (e.g. Head of Department, Syndicate Leader)	25.8
Classroom Teacher	36.2
Technician	1.7
Professional Facilitator	41.3
Lecturer	1.7
Regional Spread	
Main Urban [200,000+]	42.8
Secondary Urban [100,000-200,000]	10.7
Minor Urban [1000-100,000]	10.7
Rural Centre - a Town with Population fewer than 1000	7.1
Rural Area - an Area with no more than 300 People	7.1
Other	21.4
Years in Education Profession	
1-3 Years	1.7
4-10 Years	25.8
10-20 Years	43.1
20+ Years	29.3

Note: Total may exceed 100% as some educators held more than one role. In relation to regional spread, 'other' indicated those working across more than one region. N=67

Table 2 presents the range of roles that participants indicated they held. The majority of participants (56.9%) worked in the primary school sector, although all sectors were represented from early childhood through to secondary. Twenty four percent of respondents, who may have been facilitators in Ministry of Education contracts, identified as being from other educational institutions, such as universities. No respondents identified as working in Māori medium schools. With 45% of New Zealand teachers working in primary, compared to 14% in secondary, the spread is reasonably consistent with the 2012 schooling statistics (Ministry of Education, 2012b).

The participants represented a range of roles from classroom teacher through to senior leadership. The proportion of facilitators may reflect the influence of the Ministry of Education contracts using the VLN Groups site to facilitate professional learning conversations. It is worth noting that some teachers also indicated that they held facilitation roles, acting as in-school mentors and professional learning leaders.

In addition, I was interested to gauge the extent to which the social network site allowed geographically isolated teachers to engage in learning opportunities that they usually would not have been able to do. The criteria were derived from Ministry of Education schooling statistics (Ministry of Education, 2012b). The majority of respondents were from main urban areas in which professional learning opportunities are arguably more readily accessible, but which also offer better connectivity than rural areas. However, all geographical area types were represented. Those that selected

'other' worked in multiple areas across New Zealand, such as those in professional facilitation roles.

In terms of years in the education profession, most of the survey respondents (43.1%) had been in education for 10-20 years. Over a quarter, however, also identified as being newer to the profession, while a further 29.3% had been in the profession for over 20 years. Interestingly, there were comparatively fewer teachers who were recently new to the profession (and arguably younger). Fewer than 2% of respondents were in their first three years of teaching.

In summary, the demographic information of the VLN Groups members who completed the survey reflects professionals who are reasonably experienced in the education profession and who are cross-sector and cross-role within that sector. There is interest here in the way that established teachers, who may have developed a broad understanding of the nature of teaching, are moving to integrate such networks in their practice. This may also reflect the way in which the VLN Groups, a comparatively new network, has been established on the basis of Ministry of Education contracts. The lack of newly qualified teachers may be a reflection of the pressured nature of the provisionally registered teacher's role, and of the way in which professional learning for new teachers is managed in schools. It might also suggest that those who engage in Ministry of Education contracts are those staff members who are established within schools.

The following table (Table 3) presents the reasons that participants gave for joining the VLN Groups network.

Table 3

The Main Reason that Motivated Members to Join the VLN Groups Network

Reasons for Joining the Network	Percentage of Responses
To Overcome Geographical Isolation	2.9
To Engage in Professional Learning e.g. Discussions	46.2
To Connect with Other Schools/Colleagues that They Knew	4.4
To Participate in a Course or Specific Professional Initiative (e.g. NAPP, ICT PD)	20.9
To Take Advantage of Colleagues' Expertise in a Particular Area	10.4
No Clear Reasons – Someone Else Recommended I Join	10.4

Note: N= 67

In terms of the motivations to the join the VLN Groups network, engagement in professional learning (46.2%) emerged as the key reason for registering as a member of the network. Interestingly, 20.9% were drawn in as part of a requirement to complete a course. Of less importance was the need to take advantage of more informal professional activities such as to network with others or overcome isolation. Participants saw the site as a space that could support their professional practice, one stating that “it is all about the sharing, the collaboration, the problem solving with like-minded teachers I would never have been able to connect with in the past” (survey respondent #49).

The following table presents data related to how *engaged* the respondents felt they were in the network once they had become members.

Regardless of whether professional learning is voluntary or compulsory, engagement in professional learning at some point is vital (Timperley et al., 2007).

Table 4

Network Members' Level of Engagement in Participation.

Engagement	Percentage of Participants
Not Usually Interested or Engaged	0
Interested e.g. I Occasionally Skim/Browse	64.5
Very Engaged e.g. I Regularly Make Time to Explore Content and/or Contribute in Depth to Resources/Activities	35.4

Note: N=67

The motivations and levels of urgency that drive teachers to pursue objectives in the VLN Groups is a key factor in the way activity can be understood in a social network site. Sixty four percent described their level of engagement as 'interested' with occasional participation, compared to 35.4% who saw themselves as 'very engaged', reflected in regular visits or frequently reading email notifications. No particular role, sector or experience range was overtly featured in the data:

I think I engage and explore content that I have a real interest in. I do sometimes skim over email notifications and if something grabs me I'll explore further by checking out other contributions around the same topic and/or by contributing myself (survey respondent #8).

Several participants commented on the challenge of managing time, and of engagement waxing and waning according to workload and topic, “[I] have set a rule in my inbox and browse 1-2 times a week day. If something takes my interest I will read fully and may explore further” (survey respondent #4).

The factors that affected educators’ involvement were of great interest and are shown in the following table, Table 5.

Table 5

Qualitative Comments Related to Members’ Motivations, Categorised by Themes.

Members’ Motivations	Percentage of Comments Related to Motivation
In-School Role Demands It	9.0
Contractual or Programme Requirement	21.0
Early Adopter of Technologies	6.0
Novice/Follower of Others	7.0
Personal Affirmation	15.0
Personal Learning	34.0
Altruism/Sharing	3.0
Reduce Isolation	6.0

Note: N=143 (the number of comments)

In the survey, these comments were made in qualitative responses and then synthesised thematically using content analysis to categorise comments by emergent themes. Thirty four percent of comments were categorised as relating to educators' intrinsic motivation to engage in personal learning to enhance their practice. Several identified as 'early adopters' who felt an urge to be part of this networked way of learning. Fifteen percent of comments referred to being motivated by the feedback and affirmation it gave them, "When I am asked to help in a blogging group or something...it's like recognition, you know. That someone else is valuing the work that you are doing" (Carol, interview. Q. 24, l. 49).

A few were keen to on-share and give back to educators around them, often in their immediate vicinity, by setting up groups to support learning.

In terms of extrinsic motivations, 9% of comments identified the VLN Groups as a way to reduce geographical isolation, but also isolation within the school where they were in sole charge of an area or an early adopter of technologies:

It can be very isolating doing what you are doing and trying to initiate change in your school. Through the VLN, I am able to gain insight, support and information about what others are doing and success stories to take back to reinforce what I'm trying to do in my school (survey respondent #15).

Significantly, in terms of motivation, 21% of comments named contractual obligations, such as a course, a role, or a Ministry of Education contract, as their reason for engaging in activities.

In this section it seems that the VLN Groups' members who participated in this study reflected a wide cross-section of the education profession and perceived a rich range of opportunities for them to engage in both formal and informal professional activities. The influence of programmes and contracts is strong across the sample, which might be expected, considering the way the Ministry of Education and network managers have chosen to grow its critical mass in the early years of its development.

The following section presents the findings related to the types of goals and activities that the participants indicated they focused on when using the VLN Groups.

2. Goals and Objectives within Educators' Activities

As explored in Chapter 2, the goal of professional learning is crucial if activities are to have impact on practice. The research highlights the importance of focusing on the relationship between teacher action and student learning and on the theories behind practice. While no single type of activity is considered to make a particular difference to teachers, it is important that activities do engage sufficiently deeply in curriculum and pedagogical content as to be worthwhile. The focus for this study is the extent to which activities in the VLN Groups can contribute to this type of discourse and what the characteristics of such activities might be. If we consider the position of this within activity theory, this section spotlights the relationship between the subjects' – the educators' – motivations, and the goals or objects that they want to achieve. This section unpacks the findings

in relation to the type, frequency and focus of educators' engagement in the VLN Groups.

Table 6 presents data related to the frequency of engagement with the site, which included both reading and posting. It should be noted that peripheral engagement, such as reading email notifications without actually visiting the site, might be frequently undertaken by members who rarely or never post. Members must visit the site online to post or share resources.

Table 6

Frequency of Engagement with the VLN Groups Site

Frequency of Use	Percentage of Participants
Every Day	10.4
Several Times a Week	31.3
Once a Week	10.4
Occasionally	20.9
I Read the Automated Emails Regularly and Do Not Usually Go to the Site	22.3
I Read the Automated Emails Occasionally and Do Not Usually Go to the Site	1.4
Other	2.9

Note: N=67

The survey results suggest that those who are most likely to have completed the survey are those who describe themselves as engaged. Thirty one percent visit the site several times a week, with 10.4% more visiting at least weekly and a similar number engaging every day. Twenty percent see themselves as occasional visitors while a similar number rely on the emails for information without coming online. It is a point for later discussion as to

how the arguably passive activity of reading emails triggered by other people's comments in the social network site can play a deliberate part in professional learning. Of interest here is the somewhat ad hoc nature of the engagement. Qualitative data in response to this question suggested that visits, or at least the reading of emails, were an 'add on' rather than central to the professional learning experience:

I have periods when I visit multiple times a day, and periods when I am an infrequent visitor. This usually depends on what other projects I am currently engaged with (survey respondent #57).

Of central interest to this study was the particular professional learning that motivated educators to use the VLN Groups. Table 7 reflects four common goals that other studies suggested were important reasons to engage in social network sites. Respondents ranked them according to how well the VLN Groups helped them meet those goals.

Table 7

The Effectiveness of VLN Groups in Meeting Participants' Needs

Participants' Needs	Preferences by Percentage			N/A
	Very Useful	Moderately Useful	Not Very Useful	
To Connect with Colleagues Beyond my School	32.7	57.4	3.2	6.5
To Address Problems or Questions Related to My Own Situation	16.3	70.5	8.2	4.9
To Explore Topical Issues through a Range of Viewpoints	40.9	45.8	8.2	4.9
To Create New Resources	4.9	16.0	65.5	13.1

Note: N=67

Two areas where participants felt the site most successfully met their needs were the ability to explore topical issues and being able to connect with other colleagues. Seventy and a half percent indicated that being able to address problems or answer questions was moderately useful, too. Of interest is that the creation of new resources or knowledge was not ranked as a priority to be met by involvement in the VLN Groups.

The survey and interview sought to unpack in further detail the kinds of goal-related activities that were typical amongst participants. For example, of interest is what educators are trying to achieve when they connect or seek answers to their questions. Table 8 conflates the behaviours

of educators with the goals that they indicated were at the front of their minds when using the VLN Groups.

Table 8

The Types of Activities and Goals that Participants Indicated were Motivators.

Activity Type	Percentage of Participants
Types of Activities	
Passing on Information	10.0
Gathering Information	11.0
Monitoring Trends	2.0
Browsing; Following Interesting Topics	30.0
Sharing Resources and Contributing	25.0
Facilitating Discussions	16.0
Recording and Curating my own work	5.0
Making Connections	2.0
Goals	
	Percentage of Comments
Support Others' Learning	11.0
Collaborate and Explore Current Issues	18.0
Understand Pedagogy, especially e-Learning	42.0
Manage Whole School Issues	8.0
Explore Learning Area Knowledge	14.0
Contractual or Course Requirements	6.0

Note: Activities N=110 comments; Goals: N=67 participants

Findings indicate that the most popular activity is for educators' to harness opportune discussions that were relevant to their own contexts. Thirty percent of comments related to browsing and following areas of interest,

with 11% of comments referring to gathering information and monitoring trends:

[I use it] as a kind of educator Wikipedia/encyclopedia really! It's a great place for me to start looking at/for stuff. Then of course the ease of access to other perspectives provides a really quick indicator of whether my take on something needs more added to it. It's also really good for passing on discussions to colleagues and others who might show an interest in a particular topic (Toby, survey, Q. 13).

A second type of activity was the way information was used: 24% of comments talked of posting links to information and contributing resources in the network, while 10% referred to gathering information or passing it on to others who may be outside the network. A small number of comments discussed using the site as a space to reflect on and curate their own work. Of less importance but perhaps surprising, given the nature of the VLN Groups, was the need to use the social network site to make connection with educators. Only 2% of comments said this was an important objective, although elsewhere in the survey, educators commented on the advantage that a connected space can bring: “[The connections] are good as it broadens the potential for me to have professional discussions with others not in my school or cluster” (survey respondent #31). A final point to note is that 16% of comments referred to educators using the VLN Groups to facilitate the learning of others, either voluntarily in their school or through a Ministry of Education contract. A key point here, in terms of professional learning, is that the majority of activities might be considered to be somewhat peripheral in that they involve skimming and browsing. There is opportunity

here for educators to front-load new thinking and ideas, while deeper, more challenging discussion related to theory and practice perhaps occurs elsewhere.

The survey and the interviews asked educators to comment on how their immediate actions in the VLN Groups network were intended to have impact on their professional learning in their school contexts. With reference to Table 8, in terms of specific content, 42% identified pedagogical learning as an objective for engaging with the site, with e-learning (as a subset of pedagogy) as a strong focus. Considering the dominant nature of a Ministry of Education e-learning contract in the VLN Groups, plus a large group focused on iOS devices, this may not be a surprise:

e-Learning leadership and discussions re: leading staff change have been empowering and affirming. Assistance and ideas were instant when beginning the iPad journey last year. There are too many to list, to be honest. I guess the VLN supports deeper inquiry into pedagogical change including links to readings and case studies (survey respondent #49).

More generally, 8% of comments saw the site as helping them take a confident lead in whole school change in their organisation or to facilitate the learning of others (11%), while 18% used the site to explore pertinent issues related to their own professional learning. 6% were contractually obliged to engage in some form of professional learning in the site. It appears from the findings that the site is used to complement and extend in-school professional learning activities, as opposed to replacing them, although how strategically this is managed is open for debate. Compared to

pedagogical content, there appeared to be less interest (14%) in exploring curriculum learning areas. The survey sought to drill further into the types of curriculum-related content that educators were engaging with and this is reflected in Table 9, which presents both the content types and their usefulness, as ranked by participants.

Table 9

The Perceived Usefulness of Different Topics of Content.

Types of Content	Preferences by Percentage			I Don't Look for this Type of Content
	Very Useful	Moderately Useful	Not Useful	
Curriculum Learning Areas	45.6	51.0	0.0	3.5
Effective Teaching Approaches	66.1	33.1	0.0	0.0
Whole School Issues e.g. Leadership or Professional Learning	67.8	30.6	0.0	1.6
Brief Tips, Advice, or Resources	55.9	42.5	1.6	0.0

Note: N=67

Whole school issues such as leadership (67.8%) and effective teaching approaches (66.1%) were most useful, while the ability to exchange tips and brief information on a range of issues (55.9%) also stood out as motivating objectives. A typical comment from a teacher stated that, “it has provided me with reinforcement that what I'm trying to achieve is best possible

practice in my classroom teaching and learning environment” (survey respondent #57).

This section has presented findings related to the relationship between educators’ and their learning goals on an individual level. Key themes relate to the way teachers are dipping into topics of interest, sharing resources and passing them on, and how these tend to relate more to whole school issues and the ‘how’ of teaching rather than related to curriculum learning areas. In some ways, the VLN Groups offers a space that appears to be complementing, affirming or adding to teachers’ in-school experiences. However, the findings also appear to suggest that deep discussion, knowledge creation or critique of practice is rarely a focus for members as they work within the network.

The following section presents findings related to the way in which the tools mediate the individuals’ activities.

3. Tools as Mediators of Activities

This section considers the way in which the educators’ activities are mediated by the technical components of the VLN Groups social network. It presents the findings related to the various components available to support educators’ activities and the way in which they enabled, or constrained, the activities.

While members of the VLN Groups have at least thirteen different tools at their disposal, with a myriad of ‘mixes’ in terms of the way they are used to achieve objectives, there were some common pathways taken by educators that findings indicated were typical combinations. Table 10 shows

which tools were considered to be of most use to educators as they worked towards their various goals.

Table 10

The Perceived Usefulness of the Functionalities Offered within the VLN Groups.

Functionalities of the VLN Groups	Preferences by Percentage			
	Very Useful	Moderately Useful	Not Useful	Not Sure What This Is
Site Organisation	20.3	61.0	18.6	0.0
Personalisable Dashboard	18.6	61.0	20.3	0.0
Activity Stream in Dashboard	18.6	64.4	15.2	1.6
Profile Pages	23.7	62.7	13.5	0.0
The Ability to 'Friend' (Connect to) other Educators	32.2	52.5	15.5	0.0
Different Groups	69.4	28.8	1.6	0.0
Discussion Forums	66.1	32.2	1.6	0.0
The Blogging Tool	25.4	27.1	37.2	10.1
Edit Functions e.g. Being able to Write, Add Multimedia	38.9	49.1	10.1	1.6
The Bookmark Tool	23.7	42.3	23.7	10.1
Email Updates to my Inbox	55.9	37.2	6.7	0
RSS News Feeds	25.4	38.9	32.2	3.3
Other	10.1	11.8	10.1	67.8

Note: N=67

Findings suggest that the educators find the group tools (69.4%), discussion forums (66.1%) and email notifications (55.9%) most useful. A second tranche of tools chosen as ‘useful’ by over 60% of respondents included those for managing their own space and pathways through the site: the personalisable dashboard, the profile pages, personal network and the activity stream that keeps a real-time record of what is being posted across the VLN Groups. The ability to post and edit was also seen as useful, whereas the blogging and bookmarking tools, and the RSS feed, were ranked as less useful than the rest. A typical experience is reflected in Carol’s comment in the interview:

With the emails, I have to do it now, answer it or forget...

Some of the [discussions] have a huge life. Maybe they’re controversial or together we can pull a lot of knowledge into something useful. Some of them are just, you know, this is how we do this. (Q. 14, l. 29).

The survey also asked participants to indicate what kinds of engagement were best afforded by the technical functions of the VLN Groups, indicated in Table 11.

Table 11

The Successful Affordances of the Tools, as Perceived by the Participants

Affordances of Tools	Percentage of Comments
To Self Publish	2.0
To Curate and Archive	5.0
To Discuss Ideas	28.0
To Share Information	23.0
To be able to Personalise my Pathway	5.0
To Join Interest Groups	20.0
To Network with Others	13.0
To Search for Relevant Information	4.0

Note: N=137 comments

Findings suggest that being able to discuss (28%) and share (23%) were most important for meeting objectives, based around the interest groups (20%). In her interview, Heather commented that:

The online discussions that you have is [*sic*] something that you probably wouldn't get unless you went to the ULearn conference or in a staff meeting, and then it all depends on the staff you work with and what their mindsets are (Q. 23, l. 49).

Networking with others was seen to be less important (13%), as was the ability to use the network for personalised management of learning (5%), for curating and archiving (5%), and self-publishing (2%).

The findings appear to suggest that conversation, mediated by the forums in the groups and triggered by email notifications, is a combination most typical for these users.

Respondents were also asked to share their views on the network as a whole in the context of their use. Qualitative comments were synthesised by themes and these are presented in Table 12.

Table 12

How Participants Perceived the Network as a Tool.

Perceptions of the Network as a Tool	Percentage of Comments related to Perceptions
Issues with the Design	9.0
Issues with Navigation / Information Architecture	38.0
I See It as a Flexible, 21 st Century way to Learn	9.0
It is Evolving with the Users	4.0
It is a Controllable Mode of User-Generated Learning	13.0
It is a Fast and Efficient way to Learn	13.0
There are Technical Challenges	4.0
I Have Issues with Managing the Flow of Information	2.0
I Like that it is Local to New Zealand	7.0

Note: N=137 comments

Considering how they viewed the network as a whole, members perceived both opportunities and challenges in the way the tool mediated their actions.

They alluded to the opportunities that the tool offered to help them meet objectives. These included enjoying the speed and efficiency of the tool (13%), the way the learning pathway was user-generated (13%) and the fact that the VLN Groups seemed to be evolving according to users' demands (4%). Some survey respondents made comments about this being a contemporary way to manage aspects of professional learning (9%) and that this was part of the attraction for them, as reflected in the following comment:

This provides an online blended 'wrap around' layer beyond a simple resource base but allows people to collaborate around areas of interest, engage in conversations, engage more meaningfully in PD. It is what learning is all about for our kids and ourselves as teachers - social co-constructed. People can do this for themselves of course but this site provides the affordances to enable this across distance time and schools and other organisations (survey respondent #5).

It is interesting to note that this educator saw the VLN Groups as providing a service to link schools together to make it easy for teachers to connect around professional development. A significant finding, however, was the challenge that participants found in the information architecture of the site and its design. Navigation was a significant issue for many (38%), as well as the text-heavy nature of the interface. This tension will be discussed in detail in section 4.

This section has presented the findings related to how the participants perceived the functionalities of the network itself, and the extent to which these functions mediated their path towards their goals. The following section reflects the way in which the activities of educators, mediated by the VLN Groups tools, occur within the wider system of the social network site as a whole. This section explores the way other people, through connections and groups, also support professional learning activities.

4. Educators' Activities within the Social Network System

This section takes into account that “human beings live in a social, cultural world” (Kaptelinin & Nardi, 2006, p. 271). In the VLN Groups, the outcomes of educators' activities are continually evolving in response to the mediating influence of the community, the division of labour and the rules of the site. Each individual is operating within an ecology that comprises other people, groups, conventions and associated activities. In terms of activity theory, there is an interrelationship between the individual and the social levels and findings related to this relationship are presented in this section.

The extent to which the use of social networks was familiar to participants was of interest in this study. Of those educators surveyed, 84% indicated that they had experience of using social networking tools for professional learning, with 86% using them for both personal and professional reasons. Table 13 indicates that participants did not solely use the VLN Groups but were working across different platforms.

Table 13

Other Types of Social Networking Tools Used by Participants

Social Networking Sites	Percentage of Responses
Facebook	17.0
Twitter	60.0
Subject-Focused Tools e.g. English Online listserv	10.0
LinkedIn	2.0
MLE	2.0
MyPortfolio	5.0

Note: N=37

While the two most popular international networks are represented here, the findings suggest that the sample of educators involved in this study were not novice users of online social networking technology. It is in this context that the findings in the next section are presented. These relate to the extent to which the various functionalities of the VLN Groups mediated their experiences in the network.

This section presents findings related to the way participants view the groups and network connections, in relation to their learning activities. Of interest here is the extent to which others' actions in the network impact on professional development. Table 14 shows the numbers and types of groups participants belonged to in the network.

Table 14

The Number and Types of Groups to which Participants Belonged

Types of Groups	Percentage of Participants
Numbers of Groups To Which They Belonged	
1-3	19.0
4-6	31.0
7-9	15.0
10 +	33.0
None	2.0
Names of Groups	
iPad/iPod User Group	30.0
National Aspiring Principals'	16.0
One or More of the Enabling e-Learning Groups	61.0
e-Portfolios Group	12.0
ICT-PD Group	15.0
Software for Learning	8.0
My School's / Cluster's group	21.0
Another Group not Listed Here	19.0

Note: N=67

The findings suggest that participants were members of at least 1-3 groups (19%), with 31% belonging to 4-6 groups and a similar number involved in over 10. A significant number (33%) were in 10 or more groups, which might suggest that there were some educators in the study who were active and highly connected in the VLN Groups. In her interview, Amanda commented that, “I like the groups on the VLN because the groups all have relevance for me” (Q. 19, l. 56), suggesting a strategic approach was behind her choice of groups. As reflected in Table 14, 21% of participants belong to groups linked to their school or cluster, possibly to extend face-to-face dialogue, and some commented on the advantage of being able to establish their own groups in the VLN, “It's also important to me to help set up groups for schools I work with so they can access a wide range of PLD support” (survey respondent #57).

The survey foregrounded those groups that were the largest and most active in the site. Sixty one percent of the respondents' comments showed they were involved in groups focused on e-learning, with many also involved in associated groups, such as the iPad/iPod group (30%). Table 8 reflected the strong focus in the network on e-learning-related issues, and Table 14 might offer further evidence of this, as a result of the presence of an e-learning programme within the VLN Groups. One participant reflected on the usefulness of such groups to her wider practice in school and how her selection of groups was related to immediate learning needs:

I had signed up [for the VLN Groups] but didn't use it. When I looked for advice about iPads from an ICT cluster facilitator she referred me there. It has been very valuable. I had floods of advice from all around NZ when I asked a question. Email advice of posts is also very good. I have even been able to pass on some things I've learned - pay back (survey respondent #40).

In addition to belonging to groups, the members of the VLN Groups can also grow a network of educators to whom they are connected and which is visible to others. The following findings explore the extent to which this visible network mediates the professional learning experience. Table 15 shows how connected respondents felt they were to others in the network. Connections are defined as people that members had deliberately 'friended' who then appeared as visible connections in their networks.

Table 15

How Connected Participants Felt They Were to Other Educators in the VLN Groups

Size of Personal Network	Percentage of Participants
A Very Large Network (100+ Connections)	13.0
A Large Network (50-100 Connections)	16.0
A Medium-Sized Network (10-49 Connections)	40.0
A Small Network – Fewer than 10 Connections	31.0

Note: N=67

40% of educators had 10-49 people in their network, with 31% having fewer than 10. Sixteen percent described themselves as having a large network of

up to 100 connections with 13% exceeding that number. Of interest here is the way in which such connections might impact on learning. One participant commented that “connections are crucial in supporting professional learning, particularly if you are needing to challenge the opinion of others” (survey respondent #56). Others felt these connections were less important or were not essential for engagement in the site’s content:

[I have] various degrees of connectedness from very good friends, regular colleagues, to acquaintances and potential new friends. But in actual fact having these friends or even members of our group site doesn’t make a difference to how I use this site. Perhaps I am yet to explore this potential... (survey respondent #5).

Several participants commented that they had chosen to grow their professional learning connections on other networks such as Twitter.

Participants were also asked to consider how the presence of a community around them in the network impacted on their ability to achieve their goals in the VLN Groups. This is presented in Table 16.

Table 16

Impact of the Wider Community on Participants' Activities

How the Wider Community Impacts on Activities	Percentage of Participants' Comments
The Community offers Useful Content	30.0
It Offers a Responsive Space	12.0
The Community is Local to NZ	11.0
The Community Offers Connections to Teacher Networks	33.0
There is Easy Access to Others' Expertise	9.0
The Connections to a Wider Community are Not Important to Me	6.0

Note: N=146 comments

In terms of the impact of the community on activities, an aggregation of qualitative responses by emergent themes highlighted that 33% saw connections to other teachers as important, compared with 6% who saw the connections as unimportant. Nine percent liked having access to others' expertise and 12% of comments referred to the responsiveness of the space. Thirty percent of comments also indicated the importance of being able to access content shared by others:

There is a great wealth of knowledge available to me at extremely rapid intervals! There is a pool of intellect - group genius if you will - that is available to any particular need I may have, or wondering I'm thinking over. This is invaluable! (survey respondent #48).

Sub-sets of comments about the nature of the content included references to the way alternative views were expressed and the way they felt the site

provided critical thinking and challenge. At the same time, there were indications that there was a sufficient number of like-minded commentators in the VLN Groups for people to feel encouraged and affirmed that they were on the right track:

[I like] the sharing of ideas from such a broad range of people in my group. Lots of perspectives and points of view I just wouldn't have thought about or those I work with may not have thought about (survey respondent #30).

Similar points were echoed in the interviews, such as this comment from Heather highlighting the way in which the presence of others in the network helped break down a sense of isolation:

I think when ... it relates to your professional interests because you're leading something in your school, or whether it's a personal interest ... it's just keeping you up to date with what's going on across the country... I think it's easy to be cocooned in your own little universe or area or even in your own classroom. I think we're still in danger of being little islands (Q. 14, l. 31).

Across the network, different members play varying roles. Demographic information reflected the presence of facilitators in the VLN Groups, as well as in-school leaders supporting their teams to work in a blended way. The comments relating to the impact of different roles on teachers' actions were analysed for emergent themes, and these are reflected in Table 17.

Table 17

How Different Roles Impacted on the Learning Experience

The Way Different Roles Impacted on Activities	Percentage of Participants' Comments
Help is Provided by Other Community Members	13.0
Facilitators Support the Community	50.0
Teacher Groups Provide Support	31.0
Unaware of Other Roles being Useful	6.0
It Creates a Professional Space	23.0
Facilitators Broker Connections and Information	46.0
It Creates a Safe Community	31.0

Note: N=30 comments

While the network has explicit terms and conditions, the activities undertaken in the VLN Groups are largely moderated through tacit social rules and protocols. Fifty percent of comments on this issue reflected the positive influence of facilitators in the VLN Groups in terms of the way they support others, “I like how posts are monitored by staff to coordinate [them] as necessary” (survey respondent #26). Forty six percent of comments suggested that facilitators were key to brokering connections, making links and enabling information exchange. Heather’s comments was typical:

I'm not paid to be in there, I'm doing it for networking, ideas and sharing of resources and stuff and at the end of the day, I've got to teach from 9 to 3 everyday, so if there's someone in there who is professionally...doing that then I actually think that's helpful, particularly in something like the VLN because it's teachers [*sic*]. And it's nice to have someone overseeing it and saying 'have you seen this? Or 'so-and-so is doing this', 'you might have missed that'. It keeps you connected (Q. 24, l. 51).

The way the different roles interact in the VLN Groups characterise the cultural world of this social network. Thirty one percent of comments referred to the way that the nature of the professional comments, plus the presence of facilitators, helped them feel safe in the VLN Groups. Publication is immediate and comments are not moderated before publication. There is no spam, as noted by Amanda, "I have never seen any graffiti or spamming in there or negative comments" (Q. 25, l. 70).

Facilitation within discussions is the method for managing issues that (rarely) arise and this serves to set the norms for communication:

... when you're commenting in discussions...you do think carefully about what you're writing which is good because that's an aspect of digital citizenship. There's no point ranting and raving and carrying on. ... Yes, I do feel it is a safe environment. Everybody's not necessarily on the same page, you all have different ideas and beliefs about education, [but] you do feel safe (Heather, interview (Q, 26, l. 55).

This section has presented findings related to the way the wider network appears to impact on participants' abilities to achieve their outcomes. There were also comments related to tensions and challenges experienced in the VLN Groups and these are presented in the following section.

5. Contradictions and Tensions in Network Activities

A useful application of activity theory involves drawing attention to aspects within a system that create challenges or difficulties for the subjects – the educators – intent on achieving a particular outcome. Changes to the tool, the influence of other members or unspoken protocols, for example, may influence the way another part of the network responds and this can lead to evolutions in practice, in the tool or even in the network itself.

While many findings were largely positive, with teachers feeling that the VLN Groups network largely supported them to achieve their intended goals, some findings also suggested that there were areas that could be improved in order to facilitate the exchange and development of ideas more easily.

The following table (Table 18) presents a summary of these areas of tension that surfaced across both the surveys and interviews.

Table 18

Tensions and Contradictions in Participants' Experiences

Tensions and Contradictions in Participants' Experiences	Percentage of Comments
The Navigation and Design of the Site	41.0
Managing the Flow of Emails	15.0
Bringing in Others	7.0
Fear of Posting Publicly	6.0
Contractual Obligations	6.0
Friending Others	9.0
The Perceived Influence of the Ministry as Owners	7.0
Group Management	4.0
Too Localised to NZ	4.0
Other Networks are Preferable for this Kind of Learning	2.0

Note: N=56 comments

Forty-one percent of these comments referred to the way the information architecture and design of the site hindered their ability to achieve an objective when working in the site. They referred to the navigation as “confusing”, “clunky” and “difficult to navigate” (survey respondents #29, #62 and #46). Comments also referred to the size of the network, of not always knowing where they were and of the wide choice of tools being overwhelming. Incomplete profiles (that lacked a photograph of the person) and the whole concept of ‘friending’ to foster one’s network were also listed as issues in 9% of comments. In relation to the way members present their profiles and friend others, Carol commented on the way many members have blank, ‘egg’ (a reference to blank Twitter default profiles) avatars, with no photograph:

I think you need more [information on people] than you get.

There isn't a requirement before you come into the VLN that you have to be more than an egg... But just that 'I want to be your friend', sort of thing, is a little bit silly, like [this member]. I thought, 'You're an idiot. No one knows who you are and you friend every single person who turns up in the VLN'. What's that about? (Q. 28, l. 59).

Fifteen percent of comments referring to tensions related to the challenge of managing the flow of information from the site. People felt they were time-poor and that the discussions were often long or the emails too frequent:

I often ignore the email notifications until a time during the week when I can sit and read through properly... sometimes it means I am catching up on extensive conversations or miss the opportunity to share my own ideas, but I have such little time as a lead teacher and with my own study... the great thing is that it's still there, and I can come back to it and see the discussions when I have time (survey respondent #15).

Fears related to publicly posting online and exposing one's thinking for others to read were expressed by 6%, while 4% felt the network was too parochial and focused on New Zealand contexts. Of interest were the 13% who referred to constraints that they perceived were imposed because the Ministry owns the VLN Groups or because their involvement was part of a mandated contract or course. Carol observed that "in the VLN it is the Ministry's space and I am in their space, not that I'm ever particularly challenging, I'm pretty compliant, but, you know" (Q. 18, l. 37).

Seven percent of comments described frustration at the challenge of trying to encourage other colleagues to engage with the network as part of a facilitation role in a school or cluster:

I place a high value on this online kete but have struggled to get the majority of my cluster teachers on board. Less than a handful have taken up the opportunity (and to be fair those that did only did as it was a [Ministry] milestone requirement). I guess when they have a 'need' and I am not around next year to support them the penny may finally drop and they say "hmmmm maybe the VLN is where I should visit". Fingers crossed (survey respondent #60).

This section has presented findings related to some of the tensions that participants felt impacted negatively on their ability to achieve their goals. For participants for whom the VLN Groups was useful, this study also asked them to indicate how they felt activities in the network impacted on their practice in school. These are presented in the following section.

6. Outcomes and Development of Activities over Time

The outcome, as defined by activity theory, is the result of the combined influences of individual and social interrelationships within the context of each activity. For example, an educator might work with others in a group to unpack an aspect of leadership, drawing on the expertise of other members, and the outcome might be their enhanced professional capability in their work in school. Given the limitations in how far data could be tracked back into school in this study, this section presents data related to

the impact participants perceived their use of the VLN Groups network to have had on their practice as a result of activities within the network.

Findings suggested that educators' activities in the VLN Groups, be it reading a post or contributing to a discussion, occurred in the wider context of members' professional learning and practice. A key question, therefore, is the extent to which individual activities in the social network site contribute to outcomes beyond the site, in the context of school and student learning. In the survey, 91% indicated that their involvement in the site had impacted positively on their practice, with the remaining 8% suggesting it had not. Of those who indicated that it had made a difference, 81% felt it had had a direct impact on the way they worked with other staff or students, while the remainder thought the impact had not been transferred or were unsure. One teacher commented that she "was able to implement a 1-to-1 programme [with iPads] in a class as a trial with VLN groups giving advice, and we were able to use other schools' experiences" (survey respondent #2). Julie, in her interview, said that, "I'm more critically reflective in how I view current and new ways of thinking/teaching" (Q. 15).

For the few who felt that the VLN Groups had not made a difference, the main reason given was not spending sufficient time in the network. There were also comments about not using it in ways that they felt were strategic, but they were also unsure how to change this:

Perhaps I have not spent enough time in there? Or aren't having the 'right' conversations with the 'right' people.

Perhaps I need to set up a group with like-minded people in the same role as me. I am not in a classroom and in my role find that I am usually the one being asked the questions (survey respondent #62).

Participants who felt that the site had been a positive part of their professional learning were also asked to indicate broadly what kind of impact their involvement in the social network had had on their work in school. These findings are presented in Table 19.

Table 19

The Perceived Positive Outcomes for Participants in their School Contexts

Types of Outcomes	Percentage of Comments
My Personal Learning has been Positively Extended	9.0
My Professional Practice has been Positively Impacted	67.0
It has Impacted Positively on my Students' Learning	4.0
It has Supported my Leadership in Whole School Issues	20.0

Note: N=72 comments

For those who felt their involvement had made a positive difference to their practice, a number of themes emerged in their comments.

The 67% of educators who felt their professional learning had been advanced due to the VLN Groups talked in general terms about how the site had shown them new concepts and ways to approach aspects of teaching.

There were suggestions that the content of the site had made them think

more critically about what they doing or, at the very least, shown them alternative ways to design learning:

[It has] made me think a bit wider - beyond what I think is enough - Allowed me to focus in on specific areas of interest - I am more informed - Have something to refer to ...to back up an idea/ an action (survey respondent #8).

There were also comments related to the way the site highlighted the potential of online learning for them or their colleagues. Amanda commented on how the site was useful to connect her to facilitators working in Māori and Pasifika contexts saying, “it’s actually a spot where I can find more Pasifika and Māori teachers than anywhere else” (Q. 10, l. 33).

A further 20% of comments referred to the way their involvement had enhanced the way they manage whole school issues, such as improved understanding of leadership or strategic planning for the use of technologies, and that the information they were gleaning from the site enabled them to have more informed conversations with colleagues and managers at school, “I have used what I’ve learnt on the VLN to support how I run PD and manage change in our e-learning and ICT groups” (survey respondent #32).

However, of particular note here is that only 4% suggested that their actions in the network had direct impact on their work with students or on student achievement. The following comment was rare:

[It has had an impact on] students most definitely.

Colleagues are just starting to get me! They have seen the power of connecting with educators online, particularly when I asked for some support in moderating some writing and I received it within 2 hours from Literacy experts :) (survey respondent #49).

Given that effective professional learning should ultimately impact on student learning, perhaps this indicates that the VLN Groups is useful to foreground information to enable deeper, richer inquiry back in school, away from the network. It may also raise more challenging questions about the nature of professional learning itself for educators, and their understanding of it.

Finally, a small number of respondents saw their involvement as being for personal interest only, in that it gave them confidence or affirmation that their own thinking was broadly aligned with others, “[It has] made me feel more confident in what I'm trying to do when seeing that others are doing similar things to me and experiencing the same issues etc.” (survey respondent #32).

Interestingly, at a meta level, the use of this social network site as part of wider professional learning “life cycles” (Kaptelinin & Nardi, 2006, p. 272) seems to evolve as different outcomes are attained and so this section also touches on the way their use of the space to pursue those outcomes appears to change over time. While site members seek to achieve outcomes related to their professional practice, an unconscious outcome is the way in which their actual use of the system evolves and becomes more

discriminating with experience. Table 20 presents a synthesis of comments related to participants' perception in relation to their use of the network.

Table 20

How Participants Believed their Use of the VLN Groups had Developed over Time.

Developments over Time	Percentage of Participants' Comments
My Personal Use of the Site has Grown	81.0
I have Grown my Network Connections	14.0
Ministry Contracts have been the Key Factor in my Continued Use	19.0
Online Learning is Increasingly the Way I Want to Learn	14.0
My Workload/Role Influences the Extent to which I am Using the Site	17.0

Note: N=36 comments

Of the comments concerning the way their use had changed over time, the majority (81%) referred to the way their own skills and understanding of the site had altered the way they used it. It seems to suggest that, with greater knowledge of the affordances of a tool, the more flexibly and strategically members can use it. Smaller but significant numbers of other comments (19%) talked about how the growth in the size of the network made it a more useful, responsive place to work. Initially, a Ministry contract (in which they were obliged to use the site) was often the spur that led to sustained involvement in the network beyond the contract. A growing familiarity with the concept of online learning encouraged them to use it more often as well. As educators' roles changed, and as their workload

experienced periods of flux, so did the way they reported using the site. For some it appeared to be an ‘add on’ rather than a central part of professional learning, “I have periods when I visit multiple times a day, and periods when I am an infrequent visitor. This usually depends on what other projects I am currently engaged with” (survey respondent #57).

This section has presented findings related to the perceived outcomes of educators’ activities in the VLN Groups in relation to their work in school. Of those educators who participated, five were interviewed and four of their stories are presented in the following section.

7. Interview Vignettes

In addition to the survey, five interviews were conducted with members of the VLN Groups to triangulate the survey findings with greater depth of information. Interviewees were selected from the survey participant group as discussed in Chapter 4 (section 4.7). Of the five, the four that best captured the cross-section of education roles were selected for presentation in this section, based on the depth and coverage of the key ideas relevant to this study.

The vignettes capture the ‘typical user’ represented in the survey sample in terms of the spread of their background, their roles and their familiarity with social networking sites. The influence of the Ministry contracts is strong in three of the four vignettes. In particular, Heather and Amanda’s stories reflect the way this requirement opened the door to extended personal use of the VLN Groups.

1.1. Amanda's story.

Amanda was a teacher and part of the senior management team in a primary school in a major urban centre. She had over twenty years' teaching experience and had particular responsibility for leading Science in the school in the context of the school's Ministry of Education e-learning contract. She identified as Samoan and was a confident user of social networks for both personal and professional use, "I have always been an active Pacific islands educator online, I built my first Pacific Island website for a conference in 1999 or something" (Q. 28, l. 76). She had been a member of the VLN Groups for over two years, liked its "New Zealand flavour" (Q. 19, l. 56), and described herself as an "early adopter" (Q. 27, l. 74).

Amanda's motivations and goals in her use of the VLN Groups site were two-fold. On a professional level in her school her main motivation was to introduce Science teachers to working in a blended way using their inquires as a context for sharing and reflection online:

We've developed the Science part of our site...to aggregate the learning, to highlight what's been happening, so we've used that as the vehicle to get our teachers on board and that's where we've been very active [in the VLN] (Q. 6, l. 19).

Her activities chiefly involved encouraging them to share information such as notes, resources and images, and providing support at a social level when they were in the site, as an unofficial facilitator. She had set up a dedicated group in the VLN where she would greet teachers and provide support in how to use the site. This was blended with face-to-face context at school.

On a personal level, Amanda used the site to foster and establish connections with other educators in New Zealand saying, “basically for me it’s to make connections with other educators. That would be my main focus for it” (Q. 24, l. 68). The localised nature of the site was very important to her. She saw herself as being part of a social network site that had strong ties to her immediate education community. This sense of loyalty and ownership influenced how she used the site, “because it’s a New Zealand site, I’m trying to make use of it... I’m trying to put my own work up there as much as I can” (Q. 10, l. 31). In this context, she shared resources and stories from her school strategically in the site so that other teachers would benefit:

Our school is a finalist in the Outlook for Sunday film awards... and it’s from a Māori perspective, and I immediately put a link on the Māori and Pasifika group because I know that’s where the information will go and it will spread out from there as well (Q. 15, l. 47).

She also monitored the discussions related to her work to affirm her own thinking and to locate resources of interest to colleagues.

The ability to connect with Māori and Pasifika educators on the site was another strong motivator for her actions, “I can make more connections with Pasifika and Māori, particularly Māori at this stage...than I can anywhere else. I can’t make that same connection on Twitter” (Q. 10, l. 33). She talked at length about the way that the VLN Groups was her preferred community for Pasifika-related content, and the importance of these connections in fostering a sense of unity amongst the small community of Pasifika teachers in New Zealand.

In terms of the way the environment of the VLN Groups mediated her work in the site, Amanda was making strategic use of both the social markers, such as the profile pages, and the way groups can be used to specialise professional learning. She actively used the profile pages to establish connections with others' contexts, "If I want to find out about you, I'll go and investigate who you are" (Q. 14, l. 44). There was a deliberate use of the visible network to build her own set of connections based on who she knew and the expertise of others in the community:

When I first go on, you get your desktop, and, actually, the first thing I do is see who's online, that's always a good one to see, who's online. If there's anybody new, I'll add them straight away, that I know...because they don't have many people on their group, not that I've got many, but it's quite nice to have someone there, someone who can guide you (Q. 14, l. 43).

As an early adopter, she saw herself as someone who could support others as they acclimatised to the social network site.

A second key aspect of the environment for her was the group function and the way this allowed her to specialise and build connections with other Science teachers to support her curriculum knowledge:

I like the groups on the VLN because the groups all have relevance for me... I belong to all the Science groups on the VLN... there's not many really good Science teachers and you go to the VLN and there they all are. And I can follow them elsewhere. I know because I found them on the VLN, I can Google a name to find more information (Q. 20, l. 58).

Although Amanda did not talk about specific outcomes, it was evident that she had begun to foster a small blended community of Science teachers in her own school community and that her own learning had expanded to incorporate online modes, “I’ve just done the evidence of my professional development for this year, and you can really see a big change, even in one year, ... because I flick in and out more and more, nearly one third of my PD centres around the VLN” (Q. 16, l. 50). She talked of using it as her central space for on-sharing the findings from her upcoming sabbatical overseas.

She reflected on the responsive nature of the VLN Groups and the opportunities that were possible as the site grew, “I ... like the way it feels like it is continually moving. It’s not static, it is continually evolving... it feels like it is breathing. And that it has got life” (Q. 27, l. 74).

1.2. Toby’s story.

Toby was a secondary school English teacher and had recently been appointed Deputy Principal in a semi-urban school. He had been in the profession between 10 and 20 years and he was a strong voice in another subject-related online forum. The VLN Groups was the only other online community-based he used. He described himself as a “take user” (Q. 1, l. 3) of the VLN in that he followed discussions but rarely posted.

Toby’s membership of the VLN was voluntary and he had a particular interest in e-learning and technology which was reflected in the groups he had joined. His main motivation for following discussions was to see “what people’s thinking is on stuff” (Q. 1, l. 2), to track trends and stay informed. His role in the school meant he was increasingly involved in

discussions with colleagues around whole school issues and he was drawn to the VLN because “the opinions are usually quite strong [and] are usually well thought out. And that is what I want, particularly if it is different from what I think” (Q. 9, l. 22)

He used the site in two ways. First, he was tracking discussions on areas of interest which he could then apply in other contexts or with the people with whom he worked. Toby chose not to post in the VLN, motivated mainly by the time it would take him to draft his ideas in long form, and partly by not wanting to share ideas that he felt were not solid enough for a public space. He said that he often began to draft a post and then, “I’ve discovered I can’t articulate my thoughts as well as I thought I could and maybe that’s an indicator that I need to think about that some more” (Q. 14, l. 33).

Secondly, in his role as senior manager, he was a conduit between the site and others in his school, such as those who did not have large departments to support them. He described how he had supported a Spanish teacher and an ESOL teacher:

And I have said to both of them, because they are both in small departments and are quite geographically isolated at times in school, there are groups out there that they can get involved in, and the VLN is an really easy way to get into that (Q. 5, l. 12).

In terms of the way the environment mediated his experiences his main pathway to the VLN was through the email notifications which regularly drew him into the site “a few times a week” not including the time he spent reading the emails. He was aware that there was untapped potential in terms

of the groups he could join and that he hadn't updated his membership in a while, saying that "I can see that there is potential that you find a whole lot more stuff if I was to be methodical about the groups I was part of" (Q. 10, l. 25).

Toby's approach to using the site focused on the pursuit of a single discussion, rather than browsing through the site, saying that "typically, once I am following an actual discussion in the site, I won't go anywhere that is beyond that particular discussion" (Q. 6, l. 14). He would only follow links across the site if there were links embedded in the discussion thread. He spoke of his frustration about how hard it was to find related information on the site and of not knowing where he was in terms of the site structure, once inside the VLN:

The thing that drives me a bit batty with the VLN is not knowing the context of where I am. Some people don't care about not having a systems level understanding of stuff, but I kind of want that, structurally... Because I'm reading about a topic here, and I'm sure there must be other discussions that are directly relevant, but if I haven't got easy access to this I'm probably not going to go searching too hard (Q. 21, l. 47).

He was also aware he did not use the social part of the site, tending not to look at or notice avatars or deliberately build his own network.

He gave an example of a typical outcome to which his use of the site had led. Having read a discussion thread on schools' considerations when purchasing technologies, he read and returned to a post repeatedly over a

period of a couple of weeks as sibling threads developed from it. In response to that, Toby took the information and:

...fed [it] into a discussion with our arts [senior school leader] here and then ... fed into a couple of discussions in different forums, I think one of them was a meeting at Unitec, and I fielded some emails with someone I have done some PD with last year and their school and what they are doing. It fed into at least three other professional discussions (Q. 3, l. 7).

The content on the VLN had become an integral part of his wider thinking on an issue and had extended the information available to him in other contexts. He thought the thread had extended his perspectives on schools' use of technologies:

I probably haven't given it a lot of thought, or why people need to vouch for the effectiveness of an ICT and I probably hadn't appreciated the importance of that. Particularly from a budgetary perspective but also from a justification perspective in terms of learning as well (Q. 4, l. 9).

In terms of the way his use was likely to develop over time, Toby spoke of intending to "keep slogging away" (Q. 23, l. 51) at using the VLN Groups site because he felt it was of some use, particularly in his new role at school. He spoke of only now beginning to have the space to think about what professional learning was, compared to previously when he would just take whatever professional learning he was offered. Reflecting on the way the VLN Groups allowed him to tailor his learning pathways, he enjoyed having "total control over the content that you are looking at, you are much more

able to pick the stuff that challenges you or refines what you think with more detail” (Q. 25, l. 56). He could see the affordances of the site in terms of having access to other people’s expertise in order to stay informed:

If I had been doing the same job 20 years ago, I would have been a lot more disillusioned than I am now. There is whole lot of people out there with really well thought out perspectives on things, really informed, a lot more informed than me in many situations, and that’s really helpful because I am able to build my own understanding ...even when I started teaching I don’t think I had the same level of access and I might have come out of it feeling a bit more jaded potentially (Q. 25, l. 56).

1.3. Heather’s story.

Heather was a classroom teacher, working in a rural primary/intermediate school. She had between 10 and 20 years in teaching and held particular responsibility for e-learning in her school. Her initial activity in the VLN was through a Ministry of Education ICT PD contract “and I think ... that was what encouraged us to do it. It was like a requirement almost” (Q. 1, l. 2). An active member of a variety of social network sites for professional as well as personal reasons, her involvement in the VLN had recently shifted from a requirement to a personal involvement.

Initially, Heather was motivated by a desire to connect her local cluster of schools in an online environment around the context of developing approaches to integrate digital citizenship across their schools.

She saw an opportunity to sustain and extend their conversation using a blended approach "...because you are spread out and you are busy and you do have your everyday running of your classroom program" (Q. 3, l. 6).

She on-shared documents and examples that her cluster of schools was developing, primarily to sustain cluster conversations between meetings, "We would meet once a term as lead teachers, and so you would only see the progress once term whereas the VLN enables you to see something quicker, see the progress and see the steps" (Q. 9, l. 20). She felt that this blended approach successfully iterated the feedback cycle that was needed to sustain the cluster's learning in that:

People contributed and shared what we had done at our school, how we were progressing and what we were going to do, and that was great because we were all able to look at each other's work and each other's progress (Q. 6, l. 14).

Interestingly, as access to the cluster's activity was public, their work was shared with the wider VLN network and a positive downstream effect was receiving feedback from educators not immediately involved in their work.

Heather's own activity extended beyond the requirements of the Ministry contract, spurred on by her enthusiasm for a creative thinking:

[Creative thinking] was grabbing my attention at the time and I got a few responses from other people...I would spend much more time composing emails and it was great, because I was passionate about it and it was a way to get my ideas down and listen to people (Q. 2, l. 4).

As well as blogging about aspects she found interesting, her work drew the attention of others beyond her cluster, and she was invited by network facilitators to contribute to discussions elsewhere, “I think that networking thing is key” (Q. 2, l. 4).

A key motivator in her new e-learning leadership role was to stay abreast of current trends and issues. In terms of her use of the affordances of the VLN environment, Heather made most use of the email notifications, the discussion threads and the blogging tool. She scanned her emails daily for those threads that caught her attention:

I think ‘I will have a quick look’ and I’ll click on it and I’ll have a quick scan down...if I haven’t got time to read it I will save it [and] try and come back to it. If it’s something that doesn’t take my interest I’ll just delete it (Q. 12, l. 26).

She saw a real advantage in the way the community contributed and extended knowledge through the threaded, archived discussions, which could be read at a time that suited her. She saw opportunity to enhance her own professional learning in the way multiple viewpoints were respected and invited, encouraging her to reflect on her own context and practice, “it’s really good to get someone else’s perspective and it makes you question what you’re thinking” (Q. 23, l. 49).

The way the VLN offers connections to a set of colleagues on a national scale opened her horizons and began to give coherence to the way she thought about her practice:

If you've been at a school for years and years and years and you only ever ... speak to that one group of people...it widens your horizons...it's really, really powerful because you're just exposed to more thoughts (Q. 23, l. 49).

And even though everybody is "not necessarily on the same page, you all have different ideas and beliefs about education" (Q. 26, l. 55) she felt that the VLN was a safe, respectful environment.

Heather's involvement in the VLN Groups over time had shifted from one determined by a contractual requirement to one motivated by her own desire to stay informed, to be a conduit of information for her wider staff, and actively connected to a professional network, "It's kept me up-to-date ... I've gone in and to see what people have done ... to bring it to the staff. And it's also made me reflect on my own practice, definitely" (Q. 13, l. 28). She took a wide view of this way of blending her professional learning. She preferred the short, sharp, globalised exchange of Twitter and found the interface of the VLN text-heavy and the conversations too localised. However, when invited to consider how her involvement in the VLN would continue to develop, Heather saw this networked, connected approach as vital to her role:

If I didn't have that input, and if I didn't make use of the online tools...I don't think my teaching would be as good and I don't think I would be as excited and stimulated about teaching. It's having that outside input that makes you a better person and a better teacher (Q. 14, l. 31).

1.4. Julie's story

Julie was an online facilitator in an e-learning contract that required her to work within the VLN Groups to support teachers' use of e-learning in schools. She had over 20 years' experience in the education sector and described herself as an "early adopter" (Q.2, l. 4) who used social network sites for both personal and professional reasons.

A strong motivator for Julie's work in the VLN Groups was to fulfill the requirements of her contract by facilitating the discussions related to e-learning in various groups. She was also part of a team who was charged with growing the VLN as a national platform for learning, on behalf of the Ministry of Education. She dedicated extensive time to staying informed about the activity across the site "to keep my ear to the ground in terms of people's ideas and where I think they are taking their kids in terms of e-learning" (Q. 1, l. 2). She saw this as being central to the success of her role in that to be effective, she needed "to know what's going on, see what's going on, and see 'oh, who is that person?', 'who's just arrived?'" (Q. 15, l. 31).

She clearly enjoyed this aspect of her work which brought together her own passions for e-learning and wide sector involvement, "I feel compelled to be in there and see what other people are doing, pushing the boundaries and see what's happening across the country. I've always liked that bigger picture stuff" (Q. 2, l. 4).

Her main activities included monitoring, tracking and responding to discussions. Julie saw this as an opportunity to enhance the user-generated conversations by "brokering those big ideas with practice ... you can

actually take them to a higher level and it marries up Ministry initiatives with research and current practice” (Q. 25, l. 51).

She often used the activities in the VLN Groups as part of face-to-face professional learning sessions in school, integrating the online activity to demonstrate the advantage of taking blended approaches to professional learning, particularly when teachers were in a face-to-face paradigm:

I get ‘oh, I’m too busy for that’ or ‘I don’t want to share’ or ‘I’m not interested in being in a wider network’. And yet all of a sudden there’s that richness that I share in that thread...

It’s like taking a kit or kete on my back and I’ve got so many people in that kete with me (Q. 5, l. 10).

As well as facilitating individual discussions, Julie spent considerable time mentoring individuals to grow membership and encourage new participants. She would award badges and publicly name those who had contributed to affirm people’s involvement. For her, this was challenging at times:

That was a bit of a dichotomy for me, because as teachers we’re not there to be self promoters, we’re there to make an impact on student learning. But somewhere in there you do need to massage egos and acknowledge good stuff and that is recognising people (Q. 22, l. 45).

In terms of the way Julie used the tool to mediate her activities, she would check her email notifications daily, as well as using the dashboard to get an overview of the activity across the network. She deliberately adjusted her account settings to ensure she was getting notifications from all groups that would be relevant for her work. Within the constraints of the contract, she was still motivated by her own strengths and interest:

I will dive into those conversations that interest me most, dealing with one discussion at a time. [I] dive in and out, I don't think I could jump from discussion to discussion. I need a bit of wait time. Sometimes I've seen a discussion and I won't respond to it for days. Because I'm still processing what's happening in there (Q. 17, l. 35).

She commented on the usefulness of the Wire (the micro-blogging stream in the VLN) and also on the bookmarking tool. The latter allows users to mark websites of interest to offer a quick introduction to a resource or facilitate brief exchange. She felt the interface was "really text heavy" (Q. 31, l. 64) but that this didn't appear to stop people responding. A strength of the network, she felt, was that "it's a user-generated content [so] it is really reflecting where people are at in New Zealand" (Q. 19, l. 39) For her, this user-generation meant that everyone had an equal opportunity to participate and lead, "whether you've got a double degree or a Masters or you're doctor or you're a beginning teacher, because it's user generated, everyone's an expert in their own right" (Q. 35, l. 72).

In terms of growth and development, Julie has seen growth in her own facilitation skills, and in the network itself. She said that she had been on "a huge journey of facilitation" (Q. 6, l. 12), learning to create an informal atmosphere online that celebrated everyone's expertise. She was also learning about the e-learning context herself. For example, she described an incident where a rich thread on schools bringing their own devices had fed into a face-to-face session in a school. She integrated resources from the VLN Groups thread into the workshop:

It had a huge impact on those who were there and in turn I am going to upload my Prezi with a transcript [to the thread] if anyone wants to use it... I would say [the thread] shifted my thinking in a new direction overall and it added to my presentation (Q. 7, l. 15).

She reflected that the growth of the VLN Groups was highlighting the value of a networked approach to professional learning and sustainability:

There is a recognition that one teacher can't be everything to all those children in that one class, that one school cannot have that wide range of experiences that they may need to address the emerging trends, that it means that having a broader wider network can help people have those conversations and come to common understandings together (Q. 24, l. 49).

8. Summary

This chapter has presented the findings from the survey and interviews. The first section presented findings related to the contexts and motivations of the participants and this was followed by findings exploring the relationship between educators and their objectives within their individual activities. The third section explored the mediating role of the tools on educators' activities, followed by findings related to the influence of the wider system within those activities such as the role of other network members and the influence of the facilitators who work across the VLN Groups. The fifth section presented findings related to tensions at both the individual and social levels of the educators' activities which highlighted

areas for potential development and improvement, and this was followed by findings indicating the perceived outcomes of involvement for educators in terms of their practice and work in school. The final section presented four vignettes that described the activities in the VLN Groups in greater detail.

The next chapter will discuss the findings and their implications in relation to effective professional learning.

Chapter Six: Discussion

This chapter considers the emerging themes suggested by the findings in relation to the research and in the context of effective professional learning frameworks. This section uses activity theory as a lens to characterise and describe the way the components of the educators' activities interact and to consider both individually-driven experiences and the way these are impacted upon by the wider system of the social network. This also identifies tensions in the system that impact on educators' experiences in ways that impede or evolve the way educators' act in the social network site.

There are five sections in this chapter. The first part focuses on the motivations and contexts of the educators who use the network and the nature of the objectives they seek to achieve in the VLN Groups. The second section explores the relationship between the functionalities of the VLN Groups' environment and educators' goals and actions. There is a consideration of the extent to which the typical behaviours of the educators are oriented towards effective professional learning. The third part explores relationships and tensions between the individual dimensions of activities and the influence of the wider community and the network culture. This is followed by a brief consideration of the potential impact that engagement in the VLN Groups might have on outcomes for the students of the educators who have engaged. Finally, there is a summary of the chapter.

1. Contexts for Learning: Understanding Behaviours and Motivations

This section explores the motivations and decision-making processes of the educators in terms of the way they engage with the VLN Groups.

Viewing the praxis through the lens of activity theory, this is a consideration of educators' activities at the individual level. This includes consideration of the relationship between motivations and the objectives of these educators, that is, what it is they are trying to achieve as they use the VLN Groups social network. This relationship is depicted in Figure 6.

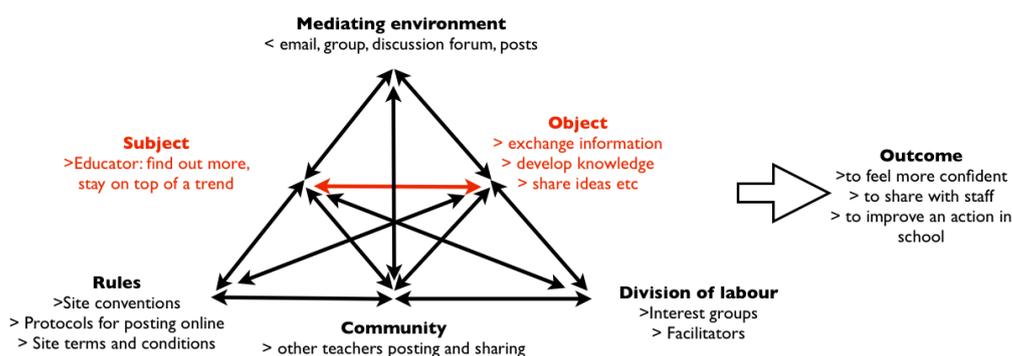


Figure 6. The relationship between educators' motivations and their actions. Adapted from Engeström (1999).

The study highlighted that both intrinsic and extrinsic motivations drive educators to use the site. Similar studies suggest that network members are most likely motivated by learning that is of personal worth combined with the growing trend to engage in more informal learning using virtual networks, enabled by growth in access to technologies. It is asserted that such spaces enable educators to personalise their learning in ways that are flexible and efficient (Bartlett-Bragg, 2009; Minocha, 2009a; Rutherford, 2010). Regardless of whether it was extrinsic (for example, compulsory courses) or intrinsic motivations (for example, curiosity or altruism), this

study suggests that educators who participated in the VLN Groups activities appeared to be primarily motivated by a desire to stay on top of information related to immediate concerns in their own teaching environment or by contractual requirements. In terms of effective professional learning frameworks, while educators may come to learning with different motivations and interests– and they will be discussed in the following section – motivations alone are also not a ‘deal breaker’. Engagement is crucial, but whether it is voluntary or not, has less effect on the outcome. Despite the espoused importance of educators driving their own development, studies into effective professional learning do not consider intrinsic motivation to be of greater value than compulsory professional learning in terms of outcomes for learners. However, if we are to design and evolve platforms and networks that create safe spaces for professional challenge, it is vital to understand the way in which educators, particular those in the vanguard of blended learning, choose to engage with such environments.

1.1. Intrinsic motivation: Interest, trends and immediate needs.

Research into andragogy suggests that self-efficacy, agency and personal goal setting are vital for successful learning (Bandura, 1997; Gunawardena et al., 2009). In this study, one aspect of interest was the way in which educators appeared to be expanding personal notions of what it means to be a professional educator, to include the value of being connected to networks wider than their immediate school.

In terms of intrinsic drivers, of interest to this study was the way educators attribute greater importance to content shared within the network

than to making connections. A key theme was the perceived importance of accessing content of interest, which was a higher priority than growing professional networks of educators. Studies suggest that the sharing of content is a prime motivator but they also query the depth of learning that can result from such fleeting exchanges (Rock & McCollum, 2009; Rutherford, 2010). Connections to others is also considered to be an important affordance of such sites (Berry et al., 2007; Dwyer et al., 2009), and this was borne out in the study in the enthusiasm for connecting to like-minded educators as well as accessing different opinions. Many participants asserted the importance of finding affirmation in the views of others, as Bartlett-Bragg (2009) suggests, and also of exploring a variety of viewpoints around a given topic. However, while a few participants spoke of the way the VLN Groups network reduced isolation for them, this was not a strong motivator, nor was the idea of altruism or growing a connected network for sustainability. Crucially, the identity of those participating in the network was of less importance than what was being shared. Content related to current themes, such as students bringing their own devices, was a far greater motivator than knowing the people who were sharing the content. The participants were more likely to be consuming content, rather than contributing content themselves. Reading and staying on top of ideas was a far greater motivator than creating, adding to or developing new content in a coordinated way. In many ways this approach to professional learning online is not a surprise. This is not to say that the affordances to connect across the network were not being utilised but that they were, perhaps, regarded as an enabler, operating in the background, rather than as a means or a motivator in themselves. The act of engaging with others' profiles

seemed to be a largely sub-conscious act, or one that people *felt* should be important in the way they used the site, but was less so in reality.

A key question is the extent to which cherry-picking content as it is needed plays a legitimate part in effective professional learning. Given that the framework for professional learning that informs this study asserts the importance of teacher inquiry derived from student achievement data, teachers might need to consider how this process of grabbing interesting information quickly can be integrated effectively into personal inquiries. The facilitation of content that is both relevant and of sufficient quality to be reliable and useful is also a key implication here. The content that drew in the teachers tended to be that which was of interest to them. Studies have shown, however, that, for learning to have impact on student achievement, the content needs to be a complex mix of theory and practice based on students' needs, as well as supporting inquiry processes (Timperley et al., 2007). It is open to debate as to how the cherry-picking approach in the VLN Groups supports, or is integrated deliberately in, this deep process of personal critique and review.

1.2. Extrinsic motivations: Contractually managed professional learning.

The concept of compulsory professional learning appears to sit at odds with the importance of self-driven, intrinsically motivated learning that characterises effective andragogy, and also with the way online social networks tend to evolve from grassroots beginnings. It was therefore relevant to explore the impact that the use of external contracts and programmes had on educators' use of the VLN Groups.

A noticeable trend across the data was the influence of professional learning contracts, particularly Ministry of Education contracts, on members' motivations to participate. Other studies have highlighted that this can appear as both opportunity and threat to participants and that social networks within state-run professional learning must offer safe spaces for learning to occur, most importantly when the involvement of the state is high (Berry et al., 2007; Rutherford, 2010; Schlager & Fusco, 2003).

The population data in the VLN Groups was representative of pan-sector groups with a predominance of professional facilitators and experienced teachers, as well as more primary educators than secondary. While this may be a reflection of the population of schools across New Zealand as a whole, it is likely that this indicates the role of ICT PD (a national Ministry programme) as an original key driver in engaging educators. The first and largest contract to stipulate that educators should post content in the VLN was the ICT PD contract in 2010-2012. Membership of the VLN Groups and uploading reflective stories to this shared space was a requirement of the contract. The aim was to encourage cross-sector connectivity for sustainability after the contract had ended and to provide access to the professional learning for those schools not in the contract as a downstream effect on investment. Literature suggests that sharing examples of learning offers powerful opportunities for comparison with one's own work (Arnold & Paulus, 2010). The educators who had been involved in contracts felt compelled to join and participate and this was not always perceived positively. There is a clear tension here between external providers and the sense of ownership that educator members feel they have over a network space. Being compelled to join a network, share practice and

post a minimum number of items does not necessarily create the sense of belonging and safety that educators need to learn effectively. For the client too, in this case the Ministry of Education, there is the tension between funding networks with the express purpose of extending effective professional learning and allowing educators to forge their own pathways at their own pace within it, even if those pathways do not obviously align to an effective learning framework. That said, while the compulsory nature of involvement for some in the VLN Groups affects the way educators perceive their relationship with the network, it did not, of itself, affect the nature of the content being shared.

What is interesting is the way in which initial external motivation transferred into an intrinsic one for many who, after being involved in a nationwide contract, came to see the VLN Groups as a useful tool in their professional kete. It might be argued that professional learning in online spaces is still a growth area for many and that Ministry contracts have provided an introduction to the possibilities of blended, self-motivated learning for schools.

The ‘so what’ of this from the Ministry’s perspective is to understand how spaces such as the VLN Groups can extend professional learning opportunities, but also how they have both limitations and constraints in terms of what is possible, and the time and effort teachers are reasonably able to contribute within their busy days.

There are also implications here for contractors who need to manage the tension inherent in the community appearing to be ‘owned’ by a government agency in ways that might impact on the freedom to be honest and open. There is a line to be walked between growing a community from

grassroots, and acting on behalf of an agency to create a space that is expedient and effective in the eyes of that agency. So, while engagement in professional learning, whether it is contractual or voluntary, has less impact on the effectiveness of the learning than the circumstances of engagement (Timperley et al., 2007), it may be that a shift to an online space requires time and deliberate design that fosters community loyalty and engagement with a site and with educators who they do not see face-to-face. The need for challenging conversations to effect professional change may be contingent on the extent to which network members feel loyalty, ownership and a sense of belonging within that space.

1.3. The nature of the professional learning activities.

This section considers the implications of the relationship between the extrinsic and intrinsic drivers that brought educators to the VLN Groups, and the nature of the individual activities that were commonly undertaken.

Many of the respondents were adamant that they engaged in the network to access what they described as ‘professional learning’. It is not clear as to how far their mental models of professional learning align to those effective frameworks for teacher learning, such as inquiry, that focus on student achievement and on the teacher's theories that drive practice. Learning activities that have greatest impact on teacher practice are not characterised by particular types, but by the way they align to students’ needs. Teachers need multiple ways to engage in such explorations, and activities need to allow for negotiation of understandings related to their own practices and the relationship between their actions and students’ outcomes. If the VLN Groups’ members publicly engage in this kind of

learning, we might expect to see teachers' theories-in-use to be made visible, combined with reflection and reference to external sources (Ostashewski & Reid, 2010). A focus for this study is the extent to which involvement in the VLN Groups is one of several inquiry-focused pathways for the educators involved. If taxpayer funding and resources for professional learning programmes include spaces such as the VLN Groups, consideration needs to be given to efficacy of involvement in the network.

In this context, at first glance, the kinds of activities in which educators' regularly engaged seem, on the surface, to be superficial. Participants were skimming and scanning emails when they had time, dropping in and out, reaching for useful information in a seemingly ad hoc way. Indeed the majority described their typical engagement level as 'interested'. For many, they appear to be engaging at the behest of their inbox and the email notifications from groups they had once joined. Their ability to engage in the discussions in the VLN seemed, at times, to be dependent on their ability to manage their inbox. It may be suggested, therefore, that engaging in discussions and sharing information amongst the network was still regarded as an 'add-on' to more traditional professional learning activities in school. If emails were only be attended to if there was time, and managing the info-flow was a key challenge for participants, it might be suggested that the VLN Groups was not yet strategically integrated into planned professional learning, despite contractual requirements to the contrary.

Seemingly 'passive' activities were to the fore, such as browsing and following interests. Some members were gathering information or staying on top of trends, processes that may or may not have been strategic. Others

were on-sharing and occasionally contributing. There appeared to be a significant amount of peripheral participation in the VLN Groups and this is a pattern that is typical in such networks. This phenomenon, when a few contribute and the majority lurk, has been described as the power law distribution (Shirky, 2008), the '90-9-1 principle' or the '1% rule' (McConnell & Huba, 2006).

The implications here relate to the way in which these activities form a legitimate part of a professional learning process. Studies into social network sites remind us that the sharing of information may bear little relation to the kind of theory-driven dialogue that makes a difference to practice even if the participants were uniformly of a view that it is useful (McLoughlin & Lee, 2010). When we are being fed what we want, however, one might always argue this way, and studies have shown that teacher participants rarely believe they need to engage in deep professional learning or alter their practice in any substantial way (Timperley et al., 2007). At the same time, the growing imperative – and enthusiasm - in the education sector to engage in learning in this networked, flexible way cannot be dismissed.

Perhaps the key for network facilitators is to ensure that the threads offer a sufficient range of informed views, resources and information so that the skimming and scanning offers value as a precursor or contextualising support within a framework of effective professional learning, such as personal inquiry. The findings support the assertion that sharing is easier than coordinated activity, and that the sharing of tacit knowledge in such spaces needs scaffolding and structure for it to occur (Ala-Mutka, 2009; Shirky, 2008). Educators need powerful reasons to participate in

professional learning if it is to help them explore their practice deeply. It might be argued that ‘just in time’ problems of practice, that seem to drive educators to engage with discussion in the VLN Groups, might be a doorway into discussions of a deeper nature beyond the network in school. We must be careful not to assume that just because conversations in public networks appear to be superficial knowledge exchange, that deeper engagement is not happening elsewhere. It is likely that the VLN Groups, with its access to a range of educators, school stories and perspectives, provides the kinds of relevant information that can extend or underpin conversations in school. It may enable educators to become more informed and encourage them to take into account a broader range of perspectives than might have been the case in previously less connected times.

There are implications too for those who design professional learning in schools to consider how working in this way might form a valid, legitimate approach to learning for staff. They might consider how such approaches could be legitimately integrated, rather than seen as an add-on or something that only the ‘early adopters’ do. Studies assert the value of educators acting as connectors for other staff, bridging to relevant networks (Berry et al., 2007; Forte et al., 2012; Putnam & Borko, 2000; Schank et al., 2007) and many participants indicated that they used the VLN Groups in this way. There is clear indication in the data that connections to others across New Zealand are valued. This collaborative approach to keeping oneself in touch with wider trends was also seen as important. The challenge is for schools to harness this in ways that make a demonstrable difference to staff practice and student achievement and to value the roles of the ‘connectors’ in the staff.

This section has explored the individual activities of educators in the VLN Groups in relation to effective professional practice models. There has been a focus on the relationship between subject and object, their motivations and the goals they seek to pursue. The following section considers the impact and mediating influence of the tools within these personally managed activities.

2. The Mediating Nature of the Networks' Tools within Activities

This second part explores the different functionalities of the environment of the VLN Groups and the extent to which it supports activities oriented towards effective professional learning. Through an activity theory lens, it considers the relationship, at an individual level, between the affordances of the network and the motivations and goals of the educators in the VLN Groups. The VLN Groups functions as a mediating environment. This can influence the extent to which the educators in the network can achieve their goals, as depicted in Figure 7.

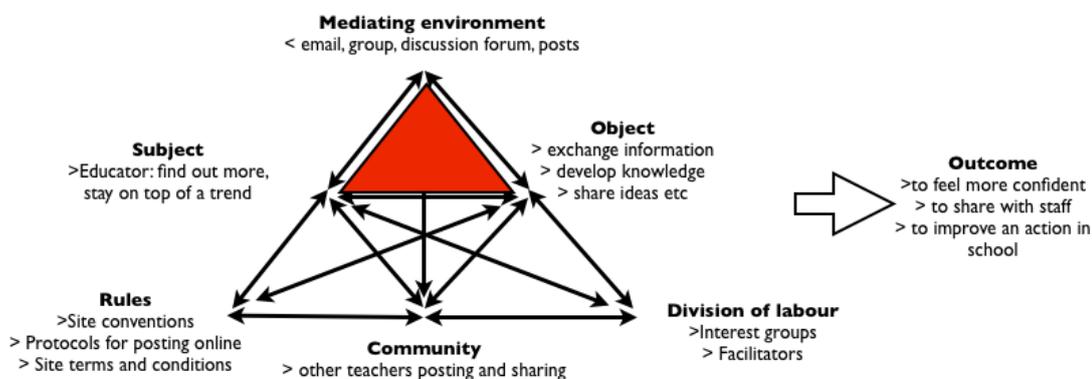


Figure 7. The mediating influences of the VLN Groups tools on educators and their activities. Adapted from Engeström (1999).

While there are many tools available to participants, they predominantly used those that enabled expeditious exchange of information, usually prompted by immediate problems of practice.

The participants were, by and large, already users of social network sites for their own professional and personal reasons and this should be taken into account when interpreting the data. These are 'early adopters' at the vanguard of working in this way for their own professional enhancement. Such network members are likely to be pre-disposed to sharing and participation already (Forte et al., 2012; Gunawardena et al., 2009).

Therefore, it might be argued that this sample represents ways of working that are likely to become typical of the wider education sector as this blended approach gains in popularity. In addition, it is of interest to consider what depth of learning such capable, confident network users might achieve and how technology might be an enabler. The tools in this case might be considered to be mediators of socially constructed learning and knowledge development, enabled by participatory structures (Kamel Boulos & Wheeler, 2007; Vygotsky, 1978). What is of interest is the extent to which knowledge is being constructed, as opposed to exchanged.

In terms of the way the VLN Groups network was used as a tool, the purpose and motivations of educators' dictated the tools they chose to use most frequently. The need to access relevant content easily meant that groups and discussion forums facilitated through email notifications to the inbox became the preferred tools. Participants' comments that related to managing information highlighted the value of personal discipline and self-management as much as leveraging the tool itself. Of interest here is that this focus on content is not the central theme that appears in much of the

research on the affordances of social network site tools. Similar studies emphasise the importance of the visible networks and how they create opportunities for connections, sharing of practice and reflection on common experiences. They assert that the notion of identity creation lies at the heart of this (Conole et al., 2011; Lewis et al., 2010; McLoughlin & Lee, 2010; Merchant, 2011). In the case of the VLN Groups, the use of profile pages and visible networks was seen as far less important than access to useful content. Where the literature is borne out, however, is in the way that those who use the site follow self-chosen pathways in the groups that they select to join and the discussion threads they choose to read, or delete.

It raises an interesting issue in terms of why a social network site, with all its tools and potential affordances, might be used as opposed to a listserv (email forum). There may be comfort in knowing that we can access people there should we choose to, or there may be still a growing understanding about how to leverage the affordances of such tools to their full potential. Certainly, people seemed to engaged with the site quite passively in many cases, using the ‘old’ technology of email to mediate the process for them, rather than actively leveraging the full range of social tools at their disposal. The extent to which this matters is a point for discussion. There is possibly a limit at which peripheral participation in a network, via email, can have impact on professional practice. It may be that we have to reconcile the limitations of such a way of engaging with what we know about professional learning and assert that such spaces have *a* place, but cannot be the *only* place, in which learning occurs. However, one might also argue for the need for enhanced digital literacy in the profession so as to exploit more fully, and with greater confidence, such environments so we

can avail ourselves of all the, as yet, untapped connections and flexibility that networks like the VLN Groups promise.

Activity theory assists in the identification of aspects of tensions or challenges within activities which can point to areas requiring development, attention or further exploration. In the context of the actual platform of the VLN Groups, of interest are the tensions that appear to arise in the relationship between the subject, tool and objectives, as reflected in Figure 8.

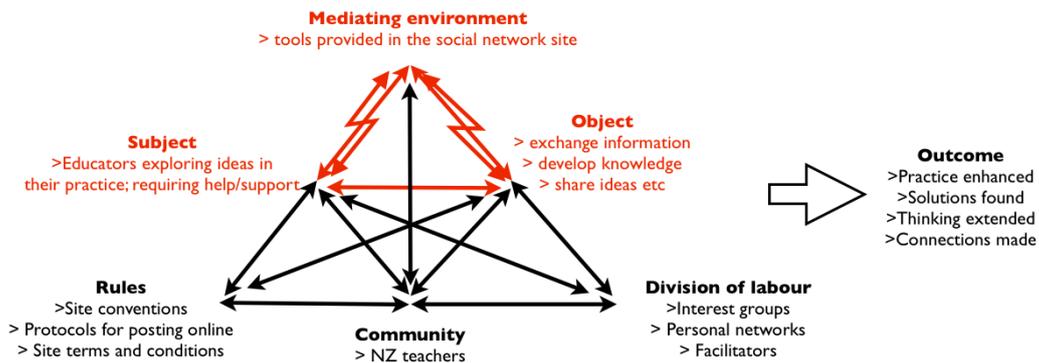


Figure 8. Tensions in the way the environment impacted on educators' ability to achieve their goals. Adapted from Engeström (1999).

One important tension that was noticeable in the data was the influence of the information architecture and design. The navigation and information architecture came up as significantly impacting on the experience for many. Studies suggest that issues of hardware, speed and platform design can be significant barriers to engagement (Minocha, 2009b) and it should be noted that this study does not include participants who attempted to engage in the VLN Groups and then withdrew. The size, the structure and the system of the network were a challenge for many and there were a number of factors that might explain this finding. While many of the participants said they were users of social networks, there was little variety (Facebook and Twitter

were often the only others they cited) and it may be that this is still an emergent way of managing learning. Perhaps the affordances and structure of new sites are still baffling at times, particularly if they are to be used strategically for learning. There may also be implications for the developers here and it raises the importance of the development team maintaining a responsive help service as well as an agile process that allows them to evolve the site in response to members suggested enhancements. In turn, this has implications for funding models for platforms that the Ministry of Education wishes to see as central to professional learning.

It is interesting that educators commented on finding the space too large when they were also judiciously using only those parts, or groups, that were of interest. This may reflect their preference to engage via email rather than coming into the site itself. When one follows a link in an email to a single discussion, it can throw us immediately into a part of the network which may or may not be familiar. It may also reflect the fact that engagement in the network was sometimes at the behest of programmes or contracts that brought educators into a new network, or parts of a network, that were initially unfamiliar and depersonalised.

With continued growth in the use of such sites, and as educators extend the number of social networks they use, it is possible that they will develop an understanding of systems and processes that tend to be common across all social network sites – for example, following an email link will take you directly into a discussion within a group – and find them less confusing over time. In terms of professional learning, it is clear that a metacognitive approach to learning in virtual spaces might need to made

available, in combination with development of the digital literacies required to use such spaces strategically.

2.1. User-generated pathways.

The importance of personal engagement in professional learning, with a problem of practice acting as a catalyst, suggests that a personalisable network may offer potential for adult learning. The affordance of the site to enable user-generated pathways towards professional conversations was recognised by some participants as being important to the way they wanted to work. Similar studies explored the growth in demand for ‘24-7’, connected, personalised learning (Johnson et al., 2012, 2011) and participants saw a real opportunity here for tailored professional learning that related to their interests and goals.

Studies exploring social network site use affirm that this is a vital affordance, possibly the central one, behind why such technology is of use to us for strategic learning purposes. The growth in ubiquitous technologies, combined with the desire of each learner to have agency, and the way in which we can be increasingly connected to others, combine in such sites to offer a clear opportunity for customised approaches for learning.

However, the extent to which this is actually harnessed for professional learning effectively remains open for discussion. In practice, the coordination of content development rarely extended beyond contributing to discussions that were of interest. There was little indication that participants, even the so-called ‘early adopters’, were working in a coordinated fashion to develop new thinking or enhanced knowledge together.

In addition, the way in which educators dipped in and out of the site, often time-poor and sometimes not aware of which groups were generating email notifications, suggests that we are still in a period of development. Schank et al (2007) highlighted groups as essential mechanisms to allow the movement of information through bonded and weakly tied group members. This study highlighted the ways members often belonged to more than one group, but rarely pinpointed the way information flowed between them. In fact, the way email notifications drove their access to information suggested the discussions were viewed in isolation. Transfer was between the network and face-to-face contexts, rather than across network groups. Therefore, while the network might afford educators a personal pathway towards 'just in time' goals, it also enables members to filter out, or miss entirely, those activities or associated discussions that might enhance their understanding. As we come to understand more about the way the Internet allows us to operate within a filtered bubble, tailored to our preferences, we can also begin to see that the very dissonance required to challenge and evolve our current practice can be avoided. The issue is the extent to which members of the VLN Groups operate in an echo chamber. While several participants indicated that they found value in the variety of perspectives on offer, that may have far more to do with their own dispositions to 'filter in' dissonance, than with the nature of the network itself. This has implications for educators, not only in the way they can grow their digital competencies sufficiently to understand how to use filtering to their advantage, but to combine this with understanding the importance of challenge to their practice as part of effective professional growth.

In terms of educators being able to pursue their own learning pathways, another point to acknowledge is the fear and uncertainty felt by some educators in relation to posting their ideas or details of their identity in a public forum online. This might be seen as a significant inhibitor to educators using sites like the VLN Groups to their full potential and may begin to explain why most users are peripheral grazers of information.

The previous sections have explored the nature and implications of activities in the VLN Groups as individual levels. Activity theory reminds us that individual activities do not occur in isolation but within authentic, real-world social contexts. The following section discusses the way individual praxis in the social network integrates the wider social ecosystem of the community.

3. The Influence of Wider Network

Social sciences research into learning behaviours, which underpins the effective professional learning frameworks, espouses that knowledge is developed within social endeavours through the use of shared symbols, tools and artefacts (Seely Brown et al., 1989; Wenger & Lave, 1991). It is crucial to note that activities in networks like the VLN Groups show interdependence between the individual goals and motivations, their use of the platform tools, and the wider social and cultural systems in which these activities occur. The use of activity theory enables us to appreciate this interrelationship, and the following section explores the way the wider system – the community, the role of other members and the cultural protocols – mediates and influences the individuals' activities.

3.1. Local community, global views.

The VLN Groups site offers a space in which educators are not alone in their pursuit of information related to areas of personal interests. Many participants belonged to at least a handful of groups and while the largest ones (related to Enabling e-Learning) reflected existing Ministry contracts, participants felt there was a clear benefit to being part of wider groups. Each activity of each participant occurs within the eco-system of other activities in the network. Figure 9 (below) reflects the relationship between the individual plane of an educator's activity and the wider community.

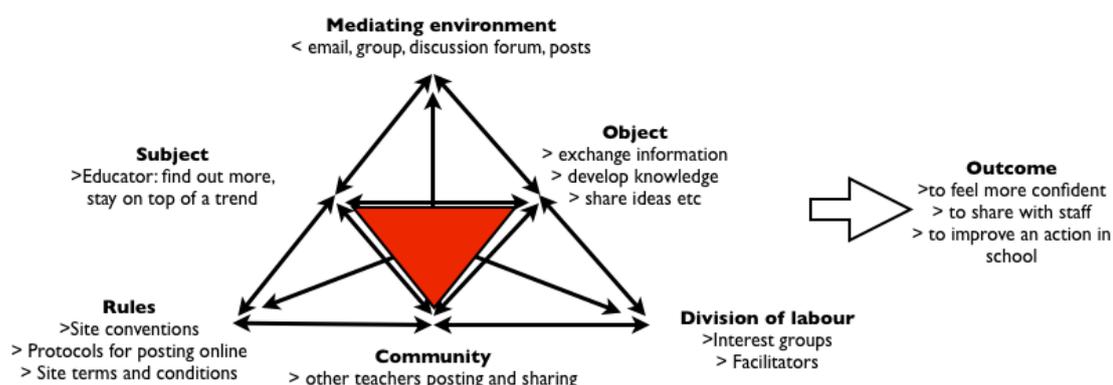


Figure 9. The relationship between individuals' experiences and the community groups. Adapted from Engeström (1999).

The findings offered clear and positive affirmation for the notion of being connected and of the ability to share and gain benefit, both from like-minds and contrasting opinions, when expressed constructively. Many participants commented on the way they had access to expertise and to views that were both affirming and professionally challenging. Other studies confirm that this pooling of expertise is a strength of such networks, overcoming constraints of geography, social status or context (Berry et al., 2007; Rock & McCollum, 2009). A number of comments praised the long form responses that the VLN Groups offered over the bite-size tweets in other

networks. It might be suggested that there is untapped potential in the network to move to the next step in terms of creating and coordinating deep knowledge development. This would be dependent on a range of factors, such as educators' digital literacies, combined with professional competencies related to self-regulation of learning, and broader understandings at the whole school level related to what constitutes effective, flexible professional learning.

It was heartening to see participants showing appreciation for a localised network reflective of the New Zealand perspective. Schank et al. (2009) comment on the importance of network members feeling a sense of ownership and belonging. The way in which discussions can be tailored to the local curricula, and to cultural perspectives particular to New Zealand, offers value at a time when the information online is often generic or Americanised. There is value in accessing information that builds on one's own cultural and professional contexts and practices (Seely Brown et al., 1989; Timperley et al., 2007). Several participants did comment on their preference for the more global view that they felt they had via networks such as Twitter. These were educators who had deliberately fostered personal networks linked to educators overseas with a view to being informed by international trends. Even these, though, are filtered to reflect one's own choice - one's own bubble of learning - so it is debatable how reflective such networks are of a truly global view. The VLN Groups allows members to filter their experience in the same way. There are implications here for the way in which facilitators in the VLN Groups can foster bridging ties that enable cross-fertilisation of information so that members feel both

bonded to chosen groups, but benefit from educational critique and ideas that offer creative dissonance to their practice-based views.

3.2. Facilitators, not moderators.

Research into the development and sustaining of social networks suggest that the role of the facilitators is vital. Studies affirm the value of the wider community roles, and their, usually positive, influence on the network culture (Ala-Mutka, 2009; Berry et al., 2007; Wenger et al., 2002). Be it overtly or tacitly, each individual activity undertaken by each network member is impacted in some way by the rules of the network and the other members. In terms of activity theory, the activities of individual members, particularly the facilitators, serve to perpetuate and reify rules and protocols that, in turn, impact on individuals' activities. This interdependence between individual and social planes in the system is depicted in Figure 10.

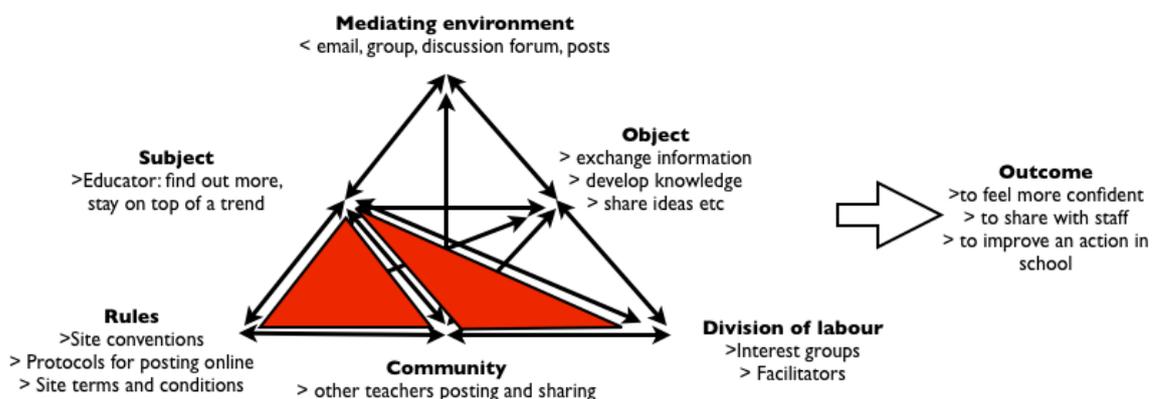


Figure 10. The relationship between educators, the facilitator and the community culture in the VLN Groups. Adapted from Engeström (1999).

Again, the influence of the Ministry contracts plays a part here in that the presence of the facilitators, funded by such programmes as Enabling e-

Learning, Blended e-Learning and National Aspiring Principals, mediates the tenor of conversations. Moderation occurs only at the registration stage. The sense of safety, rules and professional protocols were largely conveyed by the action and expression of those participating in conversations, and by the nature of questions and the responsive approaches, as other studies have shown (Gunawardena et al., 2009). This was a clear theme that emerged and it affirmed the approaches being adopted by those in such roles. The responses of the participants pointed to the way in which facilitators connected and fed information across the network, as well as seeking to add value to the discussion, to evolve threads past information exchange towards more rigorous knowledge development. Of interest is the way in which facilitation roles have begun to develop beyond those formally mandated to facilitate, to include those who work more regionally across New Zealand. Three of the interviewees were facilitating the involvement of others in the network to encourage a more blended approach to professional learning. This role, and their willingness to work in this way, seemed to have continued beyond the end of the contract. Despite some frustration with the way this usually voluntary involvement in online networks had been harnessed to a Ministry contract, it is encouraging to see the growth of such e-mentor capabilities. It might suggest that the traditional professional facilitator in schools may extend, in the coming years, to someone who can work in a blended way, across both face-to-face and online contexts.

Of importance is the nature of the involvement of external facilitators in the learning experiences of the educators. There is clear value in the way facilitators can work quietly to establish a safe, online context that might support educators to engage in challenging conversations related

to their practice. It should also be acknowledged that effective professional learning facilitators must do more than set the tone. Not only do they need to know what factors make a difference to learners, they also need to know how to facilitate conversations in ways that make pedagogy and curriculum content understandable to educators in the context of their practice. In other words, provide pedagogical content knowledge (Timperley et al., 2007). To achieve this online, when facilitators may not know other network members, requires expertise. Network owners, such as the Ministry of Education, should note the value of highly expert practitioners in this space and note the need for continued support for professional learning at the facilitator level, in blended and online contexts, not just face-to-face.

4. The Outcomes: Impact on Professional Practice

This section considers the outcomes and potential impacts that engagement in the VLN Groups was perceived to have on the professional understandings and practice of the educators who have engaged. In terms of activity theory, the outcomes represent the impact that each in-network activity has beyond the system itself and is depicted in Figure 11. This section also considers the implications of the way educators' use of the social network evolved over time and how this might, in turn, influence future activities in the network.

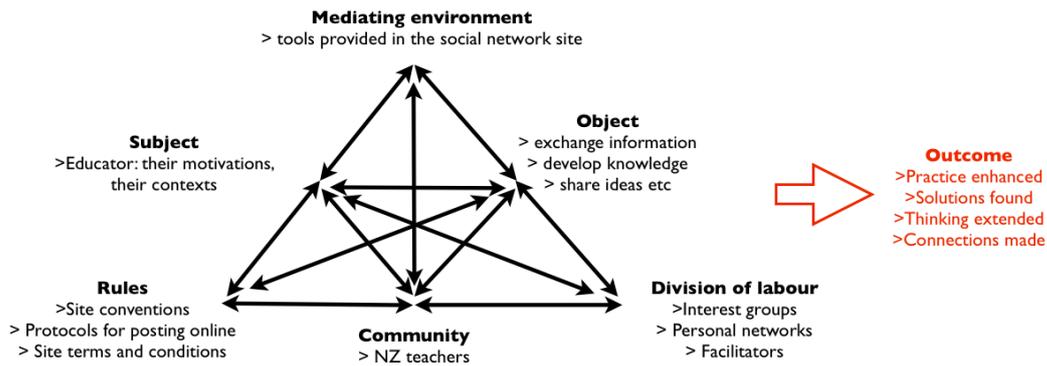


Figure 11. The outcome of educators' activities in the VLN Groups. Adapted from Engeström (1999).

This is an interesting aspect of this study in that the research draws attention to the way in which work in the VLN Groups can impact on effective professional learning. Over the last three years, the Ministry has invested significant funds in the research, design and implementation of effective professional learning across New Zealand (Ministry of Education, 2012c). Research in professional learning repeatedly asserts the value of online sites, especially those enabling communities of practice, in mediating distributed cognitive learning across multiple spaces, tailored to one's own inquiry (Dwyer et al., 2009; Rock & McCollum, 2009; Rutherford, 2010; Schank et al., 2007). Increasingly, the Ministry's professional learning provision has a blended element to it that invites us to consider the extent to which the VLN Groups' activities have relevance or impact in the wider cycle of effective professional learning. Current research in professional learning suggests that it must be judged against its impact on teacher practice related to student achievement (Ketelhut et al., 2006; Ministry of Education, 2008; Schlager &

Fusco, 2003; Timperley, 2011) although the extent to which this can be determined remains a challenge.

In terms of outcomes, the findings of this study suggested that the activities in the VLN Groups were largely ad hoc and often an ‘add-on’, dependent on the time available to monitor and manage emails. Similar research expresses concern regarding the one-dimensional dialogue focused on individual rather than group meaning making (Lewis, Pea, & Rose, 2010). The way the community functioned was to add and contribute information rather than work together in a critical way. Participants’ responses also raised questions regarding the extent to which the use of the site was strategically integrated within teachers’ inquiries. It is only possible to speculate as to whether their work impacted on student achievement.

A useful way to look at this informal approach to information gathering and sharing might be to frame it in terms of the way it can complement and add to the contextual knowledge on which teachers draw to make decisions in school. Timperley et al. (2007) suggest that learning focused on promoting specific skills, or on adding new information to existing practices, has its place as long as it is acknowledged that this assimilation does not bring about deep, sustainable changes in practice. The enthusiasm that most of the participants had for this self-driven, informal mode of staying connected cannot be dismissed as faddy or irrelevant. Seely-Brown (2008) argues for a broad framework that can encompass all forms of professional learning, rather than one correct approach. Informal learning, therefore, must surely play a legitimate part in the overall design of learning for educators and increasingly so with the growth of ubiquitous, connected access to information. However, it is important that we position

these activities in the wider framework of professional learning and do not confuse enthusiastic dialogue with deep critique of practice.

4.1. Impact on student learning.

While the central tenet of research into effective professional learning is the impact it has on student learning and achievement, discussions related to this in this study are restricted to a synthesis of educators' subjective perceptions. To ascertain the full impact on the students of network members would require longitudinal, wide-reaching research that currently exceeds the scope of this study. The following discussion can do no more than speculate and propose areas of interest that might benefit from further research.

In terms of outcomes, the overriding value appeared to be in the way the site efficiently brokered access to information. There was a perceived advantage in being able to shore up in-school learning conversations with information gleaned from the site. There was less discussion of in-depth impact on practice or on student engagement as a result, but participants could see personal value in engaging in informal learning in this way. There is potential for theory-based dialogue to be integrated with grassroots conversations of practice, and this spotlights possibilities of how the site might be more strategically integrated into inquiry.

Participants seemed to assert that personal interests largely drove their use of the site, from the way they chose which emails to read to how they selected groups to join. This does not mean, of course, that such decisions were not informed by their students' needs, but this was not explicitly signaled in their responses, despite questions to this effect. Few

participants alluded to the relationship between their activities in the VLN Groups and their students' achievement, or, in the case of school leaders, on their staff's enhanced capabilities as an outcome. While educators felt it made a clear difference to their own knowledge, they talked at the level of affirming or introducing them to ideas, rather than deeper engagement with critical reflection. Even those who asserted it had made them think more reflectively, did not link this to student achievement.

There may be several factors to explain this. First, it is possible that educators deliberately made the link between activities in the VLN Groups and their own students or staff, but did not state it explicitly in their responses. The sample caught the 'early adopters' who, arguably, are already proficient at using such sites as part of their professional learning, although it is impossible to say whether there is a relationship between technology proficiency and the ability to be strategic and self-reflective in one's own learning. It may be that this link between student needs and professional learning is occurring but not shared visibly in a public forum for reasons discussed earlier, even though successful learning in a social network site relies on a visible sharing of tacit knowledge and opening up of practice for critique (Lieberman & Pointer Mace, 2010).

Second, participants' responses may reflect a less-than-confident understanding of the relationship between their professional learning, the importance of inquiry and student achievements. A recent report suggests that a significant number of teachers may require help in deliberately appreciating the link between their actions and their students' reactions (Education Review Office, 2012). When participants' responses referred to the value of experts or of new ideas making them think critically, it may not

have been expressed in relation to the professional learning frameworks that underpin the literature on what makes a difference to students.

Third, it may be that participants did not perceive informal learning to be part of legitimate professional learning activities in their school and that such activities are extras to more formalised, traditional learning practices. It is likely that engagement in the VLN Groups, even within a Ministry contract, is undertaken by those immediately involved in the contract, or by those interested ‘early adopters’, rather than as part of a dedicated professional learning approach at whole school level.

Therefore, if there appears to be no overt link between the activities in the VLN Groups and impact on student achievement, we should consider the role that this type of online activity might legitimately have. Responses suggest that it can stimulate thinking, provide resources to inform discussions in schools, affirm directions and approaches and provide a wider context for further exploration in school. It seems to be a space to contextualise effective professional learning, rather than, at the moment, a space to drive it. There is, however, untapped potential for such spaces to be used in ways that make student-focused practice more visible and this kind of shared critique can provide powerful examples of learning in action (Steinfeld, Ellison, & Lampe, 2008). Such a direction informs the recommendations discussed in the conclusion.

5. Summary

The first section of this chapter explored the motivations of the educators and found that, broadly, members' activities were driven by the dual desires of wanting to stay on top of current issues but, in several cases, also to attend to requirements of external contracts and programmes. Activities were largely characterised by the need for problem-based answers or information, managed through emails and discussions. Participants saw clear validity here for their work, and it appears to complement more in-depth conversations in school rather than replace them. The second section explored the mediating role of tools and found that the ability to define and filter pathways can be harnessed strategically, but this is dependent on educators' digital and professional competencies and understandings. The third section suggested that the influence of the wider network on each individual offered potential for challenge and dissonance that might impact on practice, but that this needed to be deliberately integrated into professional models. The fourth section speculated as to the outcomes for students, but acknowledged that the kinds of activities on the VLN Groups could play some role in the broader learning programmes for schools.

Outcomes suggest that the position of such networked learning needs to be clearly articulated and positioned within effective professional learning frameworks in ways that are legitimised within teachers' practice. There are implications here in terms of educators' own understanding and competencies, the design of professional learning by school leaders and the way in which network managers and policymakers resource digital environments, such as the VLN Groups, within national professional learning programmes. The following chapter will outline recommendations

and implications at all three levels of decision-making as well as suggesting possible pathways for further research and outlining the limitations of this study.

Chapter Seven: Conclusion, Recommendations and Implications

This chapter offers a summary of the over-arching themes and implications that have emerged in the study and offers recommendations that might be taken into account by teachers, school leaders and policymakers with reference to the design and management of professional learning. These recommendations are followed by a description of the limitations of the study, potential avenues for further research, and, finally, the statements that conclude the study.

1. Summary of the Study

This section draws together the themes from the previous discussion to make tentative conclusions as to how the VLN Groups social network affects educators' abilities to engage in effective professional learning and in-school inquiry into practice. This study set out to unpack, through the lens of activity theory, the extent to which the VLN Groups impacted on educators' abilities to engage in effective professional learning. It aimed to characterise the motivations, the contexts of the activities and the optimum mix therein that worked for educators, as well as the outcomes of the wider system on their practice.

This study suggests that the VLN Groups does indeed provide a participatory system that enables educators to engage in an informal kind of professional learning focused on immediate concerns and contexts in their own teaching and leadership contexts. There are four over-arching themes that the findings and discussion have highlighted.

First, there is a need for schools to reframe what ‘counts’ as effective professional learning and to understand the role of activities in a social network site like the VLN Groups. The motivations of the educators to engage with the VLN Groups to a certain extent legitimise the place of self-driven information as part of a broader, in-school learning cycle. However, while it is not possible to confirm that educators’ online endeavours were part of deliberate student-focused inquiry cycles, data emphasised the value that the networked connectedness offered to those who were active members. There is an implication here that schools might capitalise on some teachers’ enthusiasm for social networks as ways to source and share information with others. Leaders might consider reviewing their approaches to professional learning design so they are commensurate with the openness, safety and collaboration that we espouse as being important for our students.

Second, it is worthwhile noting that engagement in professional discussion and knowledge building online is still a nascent approach to professional learning. What might be needed here are up skilling and growth in confidence in terms of working in blended ways so that practice can be made visible in ways that are productive and safe. In addition strategic planning at school level would be useful so that such activities are integrated into legitimate professional learning design rather than added on in an already time-poor context.

Third, owners of such social network sites and those who facilitate on behalf of clients need to continually review and work within a known tension between client requirements and community desires. Deep understanding about the nuanced way that an online community must

respond to grassroots concerns needs to be balanced with the accountability and data analysis that is required to secure ongoing funding for such sites.

2. Recommendations and Implications for Professional Learning

Design using Social Network Sites

I would like to recommend the following considerations for individual educators, school leadership and those at policy level. The rationale for considering professional learning at all three levels takes into account the interconnected systems in which inquiry cycles connect. The professional learning framework outlined in Chapter 2 asserts that evidence of students' learning informs teachers' learning, which in turn draws on data, related to whole school and national goals for education.

2.1. Recommendations for educators.

This study has already highlighted that educators are taking action for themselves in the VLN Groups, as well as being influenced by professional learning programmes in schools, and with the rise of ubiquitous web connection, there is the potential for more teachers to consider the opportunities for their learning that may currently be lying dormant. It is recommended that educators explore ways to make strategic use of social network sites within a clearly articulated inquiry, focused on student outcomes. This might mean moving from passive to active involvement, and seeking to coordinate, not just collaborate, in shared spaces such as the VLN Groups.

Second, they might explore ways to develop their own digital literacies in terms of working in blended ways, managing info-flow through

judicious use of technologies and personal time management processes, and making their reflective practice visible. Related to this is an argument for increased understanding of what constitutes effective professional development and the need to appreciate the importance of creating filtered experiences online that incorporate viewpoints that challenge, as well as affirm, one's thinking.

Finally, educators might look for opportunities to connect and participate in networks that could sustain personal learning regardless of age and stage in the education profession, as a means to extend learning over time.

2.2. Recommendations for school leadership.

The design of in-school professional learning often rests in the hands of appointed members of senior leadership teams. Motivation, personalisation and practice-based concerns are most likely to encourage staff to strive for in-school goals. School leaders might look at the way networked educators manage to personalise their learning experiences using web-based environments and consider how they might harness these blended opportunities for their staff as a whole.

It is recommended that school leadership review their design of inquiry-based professional learning so as to integrate, rather than add on, the currently informal professional learning that allows for educator agency and ubiquity of access. Schools should be aware of the way in which models of effective teacher learning are evolving to be more relevant, coherent and connected.

Leadership might also look for opportunities to blend and coordinate learning in ways that are inclusive and flexible, making the most of online environments as well as face-to-face contexts. It would be worthwhile to explore the opportunities that social, collaborative learning, enabled by participatory technologies, might offer to make developing practice visible.

Additionally, it is important that leaders understand the value of connectivity and de-siloing in terms of sustainability. Schools that are networked, with educators that are open to change and making practice visible, are more likely to be able to respond to changes in environment and policy going forward.

2.3. Recommendations for professional learning system designers.

At government or ministry level, systems are designed that seek to target resources at areas of greatest need. It is well established that professional learning is central to system change in schools. There is already evidence, as this study has shown, that some national programmes are leveraging networks like the VLN Groups to offer flexible, sustained learning for schools. A vision and strategy for how this methodology might be integrated across the professional learning and development system might be timely.

It is recommended that ministries ensure they have deep understanding of the affordances, opportunities and limitations of online environments such as social network sites. This would include an appreciation for the tension inherent in client needs and grassroots community desires.

In addition, it would be encouraging if those professional learning programmes with dedicated funding for facilitation in schools could take a broad view of how this might look in the 21st Century and consider how a blended, networked approach might be leveraged. This might include support for contracted facilitation teams to develop and deepen the way they help educators to unpack personal theories-in-use in blended and online approaches, and for agile technical support that can evolve online platforms in response to users' needs. A synthesis of professional learning research could include blended professional learning as a lens for further inquiry.

3. Limitations of this Study

This study should be considered within the following limitations. It should be noted that this is not a longitudinal study. The short time frame and constrained resources in part dictated the methodology. The tools used to gather data offer their own limitations as well as opportunities. Surveys do not by nature offer rich descriptions and single interviews catch a snapshot of experience rather than tracking experience over time. This means that the self-reported nature of participants' perceptions of outcome and on-going use and impact of the VLN Groups for their work, may not offer sufficient data to assess the impact of the use of the VLN Groups on student data, or even on practice over time. Perhaps the comparatively new field of study is the key reason here, but rigorous data capture, longitudinal research and empirical studies would help to support assertions and assumptions regarding the impact of social network sites on learning. Finding sound, empirical studies on the impact of social network sites was one of the key challenges in the literature review process.

There was limited opportunity in the interviews and survey to unpack educators' deeply held concepts related to their practice or their notions of professional learning, although there were several questions that attempted to glean information related to this. In addition, the survey sample most likely attracted those who might be described as the 'early adopters'. Therefore, this may not be representative of those who are new to the site or those who have not found the VLN Groups to be useful for their needs. The voices of peripheral participants are not heard in this study. The study in some ways represents those at the vanguard of networked learning. They may not be typical but they may represent future possibilities for the profession as a whole. Those who responded were also more likely to have been involved in, or participants within, groups or initiatives funded by the Ministry of Education, rather than coming to the VLN Groups entirely voluntarily or out of interest or word of mouth. While this possibly skews the sample towards participation that is extrinsically motivated, the data suggested that this opened doors to personal use of the VLN Groups at a later date, and it has also signposted possibilities for professional learning design on a national scale.

4. Suggestions for Future Research

This study has highlighted possibilities for future research in this area, the most urgent of which would be longitudinal exploration into the value added to teachers' practice, in their own contexts, through direct involvement in social network sites. This might include the way that information, gleaned through involvement in such networks, can extend or underpin school conversations so educators are more informed than might

have been the case in previously less connected times. It would also be useful to gather information on those for whom the site has not been useful, or for those who have not engaged in the site after having tried it. There were groups who appeared to be under-represented in the study, such as newly-qualified teachers or those still in training. It might be useful to foreground these educators, particularly considering the increasingly embedded nature of technology in the lives of new teachers coming through the system. Further cross-referencing or the establishment of correlations between activity and demographics would add further depth to the picture of teachers' actions in such sites. In addition, a detailed argument might be made for a review of the way in which such spaces are researched, in terms of methodology and tool selection.

Additional research avenues with potential include the way in which culture is established and understood, particular through Kaupapa Māori and Pasifika lenses, in New Zealand contexts. In connection with this could be research that explored the role of facilitators in building an inclusive culture in a network, including the actions, language, overt and hidden activities that foster bridging and bonding ties.

In terms of the social network site platform itself, another area of interest might also be found in exploring the tension between grassroots community desires in an online network and the requirements of a client or owner. In addition, the study suggested that behaviour was affected by the interplay with other social networks, which might prove fruitful for further investigation. At a macro level, the way such spaces are planned for and designed at a national level, in terms of strategy, intent, integration with other systems and so on, could be explored.

5. Conclusion

This study set out to explore the extent to which the VLN Groups network is being integrated into the professional learning activities of educators. In terms of this relationship between the individual and the social planes of educators' experiences in the VLN Groups, the use of activity theory as a lens on the study has been particularly useful. It has asserted the importance of knowledge development as being constructed through socially situated activity. It has also enabled me to spotlight components of activities, and the way they interweave to mediate activities, at both the individual and social levels for participants. It has highlighted the way in which the professional learning activities in the VLN Groups are fundamentally situated within the wider system of the network. Usefully, it has also been instrumental in showing how evolutions and tensions in one part of the system can ripple out to influence other parts, signposting areas for attention and development. In relation to the way activity theory and the professional learning frameworks (in Chapter 2) interact, this study begins to suggest that professional learning activity in online networked spaces is situated in a wider system and that this should be a consideration in the design of intervention systems. Given further opportunity to extend this study, greater use might be made of the way activity theory helps us to explore the nexus between the individual system and the way different variables in the relationships between system components impact upon individuals' activities. In addition, it would have been interesting to track the development of knowledge through the system in relationship to specific activities and their outcomes.

It has been heartening to see such enthusiasm for working in an online social network, and to see the growth in a national New Zealand

network that is cross-sector and cross-discipline. Hearing interviewees describe the network as a *taonga* / treasure and reading about the way it has impacted positively on educators' experiences is highly encouraging. This study suggests that educators are beginning to see the potential for connecting with each other in ways that were not possible a few years ago. For some, this ability to share and leverage previously invisible or unreachable networks has brought a new dimension to what it means to be a lifelong professional learner. This study has also found that there is some way to go. Educators need to understand how to strategically integrate networks such as the VLN Groups into their professional inquiries, and schools need to explore more deeply what potential exists for teachers to be both strategic and self-driven, in an era when information and colleagues beyond school are easier to reach.

Above all, it must be remembered that at the heart of this study lies educators' desire to be connected to one another, to grow their knowledge in partnership with colleagues and to ensure that their profession is informed and responsive to change. It is highly likely that sites such as the VLN Groups can become an integral part of coordinated efforts to grow educational theory and practice. This study appears to capture educators who are at the vanguard of this movement but who are also in the foothills, with a finger in the wind to test what may be possible going forward. A profession that seeks to keep talking and growing in a collaborative way for the sake of its members and for its students must surely have an encouraging future ahead.

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Appendix A: Information Provided on the Survey



Kia ora, talofa lava and welcome.

You are invited to share your thoughts on how the Virtual Learning Network (VLN) Groups site supports your professional learning.

The purpose of this study is to find out more about the impact of online social networking sites on teachers' professional learning. It will inform my Master of Education thesis with the University of Waikato.

The findings may be shared in workshops, blog posts, publications and conference sessions, and may also be used to inform improvements to the site. The thesis will be available from the university's digital repository, Research Commons, and via university publications.

This is an anonymous survey, unless you indicate (on the final page) your willingness to discuss this topic further in an interview. All information provided by you will be treated as confidential and will be kept securely for five years.

It is assumed that you have given informed consent if you complete the survey.

This survey should take no more than 20 minutes of your time. You can exit and return at any time up to completion.

If you require further information, please don't hesitate to contact me.

Thank you for taking the time to share your views with me.

Warmest regards. Ngā mihi nui,

nā Karen

Karen Melhuish Spencer | karen.melhuish.spencer@gmail.com | University of Waikato

Notes

This study has been granted ethical approval (16 May 2012: EDU049/12). If you have questions or concerns about the way this study is managed, please free to contact me, or my supervisor, Dr. Garry Falloon [falloong@waikato.ac.nz]

Appendix B: Survey Questions

1. What was the MAIN reason that motivated you to join the VLN Groups network?

- To overcome geographical isolation
- To engage in professional learning e.g. discussions
- To connect with other schools/colleagues that I knew
- To participate in a course or specific professional initiative (e.g. NAPP, ICT PD)
- To take advantage of colleagues' expertise in a particular area
- No clear reason - someone else recommended I join
- Other
- Please add comment or further explanation here.

2. How often do you visit the VLN Groups site?

- Every day
- Several times a week
- Once a week
- Occasionally
- I read the automated emails regularly, but don't usually go to the site
- I read the automated emails occasionally, but don't usually go to the site
- Other
- Please make further comment/explanation here.

3. How many groups do you belong to?

- None
- 1-3
- 4-6

- 7-9
- 10 or more
- Please add comment or further explanation here.

4. Which group(s) do you use most often?

- iPad/iPod User Group
- National Aspiring Principals' Programme (NAPP)
- One or more of the Enabling e-Learning groups
- ePortfolios group
- ICT PD Group
- Software for Learning group
- My school/cluster's group
- Another group(s) not listed here (please specify)
- Please add comment or further explanation here.

5. Think about how many connections ('friends') you have in the VLN Groups network. How connected are you to other educators in the VLN Groups?

- A very large network - 100+ connections
- A large network - 50-100 connections
- A medium sized network - 10-49 connections
- A small network - fewer than 10 connections
- Other (please specify)

6. Please briefly explain how important these connections are to you.

7. Think about a typical time when you visit the site or read emails from the site. How engaged are you with the content you are reading or writing?

- Not usually interested or engaged
- Interested e.g. I occasionally skim, browse and/or briefly contribute to resources/activities

- Very engaged e.g. I regularly make time to explore content and/or contribute in depth to resources/activities

Please add comment or further explanation here.

8. How well does the VLN Groups site meet your needs?

Please rank the following activities according to their usefulness [1st = Very useful; 4th = Not very useful]

Note that the choices will be automatically ordered as you make your selections.

- To connect with colleagues' expertise beyond my school
- To address problems or questions related to my own situation
- To explore topical issues through a range of viewpoints
- To create new resources

9. The VLN Groups network is a social network site. How useful do you find the following social network features to be? [Very useful; Moderately useful; Not useful; Not sure what this is]

- The way the site as a whole is organised
- Your personalisable dashboard
- The activity stream in your dashboard
- Educators' profile pages
- The ability to 'friend' (connect to) other educators
- Different groups for different interests
- Discussion forums
- The blogging tool
- Edit functions e.g. being able to write, add multimedia
- The bookmark tool to save useful websites
- Email updates to my inbox
- RSS news feeds
- Other

Please add comment or further explanation about the way the site functions here.

10. Think about the types of content in the VLN Groups that you tend to look for most often.

Look at the following types of content and indicate how useful each type is for you. [Very useful; Moderately useful; Not useful; Not sure what this is]

- I don't look for this type of content
- Topics that explore curriculum learning areas
- Topics exploring effective teaching approaches
- Items on whole school issues, like leadership or professional learning
- Topics that exchange brief tips, advice, or resources
- Other types of content

Please add comment or further explanation here.

11. Do you think your involvement VLN Groups has made a difference to you or your practice?

- Yes
- No

12. Why do you think your involvement the VLN Groups has not made a difference to you or your practice?

13. In what way(s) has your involvement in the VLN Groups site made a difference to you or your practice?

14. Has this difference in your practice made an impact on other people you work with, such as your students or other staff?

- Yes
- No
- Not sure
- Not applicable to me

Please add comment or further explanation here.

15. Please add any final thoughts about using the VLN Groups social network for professional learning.

16. In which type of institution(s) do you work MOST often. Tick all that apply.

- Early Childhood
- Primary (Years 1-6)
- Intermediate (Years 7-8)
- Secondary (Years 9-13)
- Kura kaupapa Māori
- Wharekura
- A school with special character
- Tertiary
- An educational organisation, other than a school
- Other

Please add comment or further explanation here as required.

17. Please choose the title(s) that best describes your role. Tick all that apply.

- Lecturer
- Technician
- Principal
- Professional facilitator
- Classroom teacher
- Middle manager (e.g. Head of Department, syndicate leader)
- Member of a senior management team
- Other (please specify)

18. If you work in a school, how would you describe its geographical location? Choose the best fit.

- Main urban - in a city or major urban centre.
- Secondary urban - a large regional centres.
- Minor urban - in a small town
- Rural centre - a town with population fewer than 1000
- Rural area - an area with no more than 300 people
- Other
- Please add comment or further explanation here.

19. How long have you been in the education profession?

- 1-3 years
- 4-10 years
- 10-20 years
- 20+ years
- Other (please specify)

20. Do you use other social networking websites?

- Yes - for professional reasons
- Yes - for personal reasons
- No

Please add comment or further explanation here.

If you would be happy to take part in a short interview about how you use the VLN Groups site, please add your details below.

21. Please add your details below.

- Name:
- Email Address (please check it is correct):
- Phone Number:

Thank you for taking the time to share your views on your use of the VLN Groups site.

If you require further information or wish to amend/withdraw your submission, please contact me via email, or my supervisor, Dr. Garry Falloon [falloong@waikato.ac.nz]

Warmest regards. Ngā mihi nui,

nā Karen

Karen Melhuish

University of Waikato

karen.melhuish.spencer@gmail.com

Note: When you submit and close this page, you will be taken to the VLN Groups site.

Appendix C: Information and Consent Form for Interview Participants

Tēnā koe, [name of participant]

I am completing my thesis as part of my Masters in Education with the University of Waikato.

My research focuses on the impact that the VLN Groups [www.vln.school.nz] social networking environment has on educators' professional learning.

You kindly completed my recent online survey, and indicated in your response that you would be willing to participate in a short interview to explore your learning experiences in the VLN Groups social network in more depth. This may include exploration of items you have shared in the public forum.

What will the interview involve?

Our interview should take no more than 30 minutes, and will be a combination of closed and more open questions. We can conduct the interview in a context that suits you - telephone, video conference (e.g. Skype/Facetime), or face-to-face. The interview will be recorded and transcribed. A copy of the transcript will be sent to you for your approval afterwards.

What will happen to the information you provide?

All information provided by you, including your identity, will be treated as confidential, and will be kept securely for five years. It will inform the completion of my thesis. Findings may be shared in workshops, blog posts, publications and conference sessions, and may also be used to inform improvements to the site by CORE Education / Ministry of Education. An e-version of thesis will be available from the University's digital repository, Research Commons, and via university publications.

If you are willing and able to participate, **please could you read, complete, sign and return the attached consent form to me.** An e-version is fine.

On receipt of your form, I will contact you to arrange a suitable date and time for our interview.

If at any time you have questions or concerns about the way this study is managed, please feel free to contact me, or my supervisor, Dr. Garry Falloon [falloong@waikato.ac.nz].

Thank you for your time. I look forward to hearing from you soon.

Warmest regards. Ngā mihi nui,
nā Karen

This study has been granted ethical approval (16 May 2012: EDU049/12)

Karen Melhuish Spencer | University of Waikato



Interview consent form

The impact that the VLN Groups social network environment can have on educators' professional learning

I _____ [*name of participant*] have read and understood the nature of the research project and agree to participate in the interview phase as requested.

I agree with the following statements [please tick each box]:

- I understand that my participation in the interview is voluntary and that I can withdraw at any time.
- I understand that artefacts (such as posts, profile, messages, resources) I have shared *publicly* online may be accessed and included as part of the research to support the interview.
- I understand that my identity and that of my school/institution will be kept anonymous and any information provided will be kept confidential.
- I understand that my responses will be kept in a password-protected database on a locked hard-drive for a period of five years before being destroyed.
- I understand that the findings of this research could be presented at conferences, written up in blog posts and in academic journals, and that the thesis will be available from the University's digital repository, Research Commons, and via university publications.

Name [please print/type]: _____

Signed: _____

Date: _____

Appendix D: Interview Guide

Thank you very much for agreeing to share your experiences with the VLN me today. It shouldn't take any longer than 30 minutes, although you are welcome to talk for longer if you wish. I appreciate you completing the consent form.

We'll be talking about the way in which you use the VLN Groups site to manage your professional learning, and we'll explore a particular example in depth to try and unpack how the site works – or doesn't work – as part of your learning.

Do you have any further questions about the research study or what will happen to this information?

I am recording our interview and then your responses will be transcribed. I'll send you a transcription for you to amend as you wish.

You will be allocated a pseudonym, or you can choose one, as the information from you will be treated anonymously.

We will talk through a range of questions, some are closed, others more open. You can choose not to answer questions if you wish, and come back to questions later, too, if other information occurs to you as we talk, ok?

- What do you use the VLN for?

You, as a member

- What kind of a user are you? e.g. Light/middle/heavy
- Do you see the VLN as part of your personal/professional learning?
- To what extent does the VLN connect to or extend the professional learning for your work in school? Or for yourself?

I'd like us to dig in deeper around one particular or typical learning experience that you've had in the VLN that may have had some kind of impact on you and/or your work in school(s).

The outcome, the objective, the content

- At this time when you visited the site:
- What were you trying to achieve? How successfully did you achieve this?
- Was there an outcome for you beyond the VLN? A particular impact? E.g. impact on your practice? on other colleagues with whom you work? on students?
- What content were you exploring or wanting to explore - curriculum? pedagogy? technology?

The tools and activities

- Describe your 'journey' through the site so to help me understand how you explored this content and worked your way to the outcome when you used the VLN:
- What kind of activities did you engage in? How useful were they? [discussions/pages/emails...]
- Which VLN tools were most useful in your typical experience?
- To what extent do you feel like the aspects of the site (e.g. content, the interactions) challenge your thinking in ways that impact on your practice?

The community and you

- To what extent does the site feel like a community of educators to you?
- To what extent did the community/the educators affect your learning experience?

- How useful were the social tools [e.g. profile pages/visible networks/recommendations] in your journey - and why?
- How important is this social / connected side to your learning in the VLN?

Sharing the work

- To what extent do you see yourself as working with other people? In what capacity? Who are they? How useful are other site members?
- Are you aware of facilitators? How was the presence of facilitators useful?

Rules

- To what extent did/does the site feel safe and supportive?
- To what extent are the rules & protocols clear?
- To what extent do the rules impact on your experience?

Overview

- What might have improved the learning experience?
- Did you return? Do you return often - why/why not?
- Is learning virtually something that is common for you? Do you use social networks other than the VLN for professional learning?
- To what extent does the VLN offer a form of professional learning that you could/couldn't get elsewhere? Is there a point of difference?
- How far has your involvement in the VLN changed the way you feel about professional learning?

Appendix E: Mapping the Questions for the Survey

	What's important?	What will make a difference?	Engagement in activities?
	<ul style="list-style-type: none"> • Effective contexts • Engagement in their own learning • Support learning culture • Self-regulation of learning • Cue and build on prior knowledge 	<ul style="list-style-type: none"> • Content of PL • Linking theory to practice, and the integration of TPACK • Links between teacher action and student learning 	<ul style="list-style-type: none"> • Activities • Extended time • External expertise • Challenge to your own beliefs • Inquiry skills used and developed • Multiple opportunities to engage • Variety of activities • Collaborative: Opportunity to discuss and negotiate understandings
Subject: motivation	Q.1, Q. 2, Q. 6, Q. 8, Q. 16-19		Q. 5
Tool	Q. 20		Q. 9, Q. 15
Object	Q. 7	Q. 8, Q. 10	Q. 2, 3, 4
Community	Q. 6		Q. 5
Rules			Q. 15
Division of labour	Q. 4, Q. 6		
Outcomes		Q.11, Q. 12, Q. 14	Q. 13