WHAT CAN WE LEARN FROM A LEARNING COMMUNITY?

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Abstract

This paper describes research in progress that is an exploration of educational change in the climate of recent government initiatives involving teaching, learning and networks. The Yarra Valley eLearning Community was established as a joint project between seven government secondary schools as part of the Leading Schools Fund initiative. The project employed 14 teacher coaches to support the implementation of a 1:2 laptop program, learning management system and the development of ICT rich curriculum. The research will explore the experiences of teachers and teacher coaches during the time of the project to better understand teacher professional learning through networks. The eLearning Community being studied is made up of formal and informal networks that I argue can be described as Communities of Practice. The research is a qualitative case study developed from semi-structured interviews with the 14 teachers and 14 coaches. It will explore how and why communities of practice operated within this eLearning Community. Analysis of the narratives will give insight into the relationships and dynamics between people and technologies in this community. This approach may result in findings that contribute to new social theory about learning communities. This research is significant and timely as the Victorian government is implementing the statewide learning management system, the Ultranet, through the use of teacher coaches and professional learning.

Introduction

This paper is an overview of my PhD research in progress, entitled “Networks Facilitating Change: a Case Study of an eLearning community”. The question; “How does both formal and informal networking with peers influence teacher practice as a form of professional learning?” will be explored. This paper will discuss the relevant literature including; Communities of Practice, Actor Network Theory and Social Constructivism. The methodologies will be explained; including the process of recruitment and interviewing participants from the eLearning community. Finally, possible outcomes of the research will be explored.

Some of the focus questions of the research are:

• How can teachers be best supported in knowing how and when to use technology?
• How can ICT be employed for the collaborative endeavours of teachers?
• What is involved in setting up collaborative communities?
• What are the obstacles that need to be negotiated for successful implementation of the initiative?
• How can teaching and learning be improved by development of curriculum based on social constructivist theory in a learning community?

Background: about the Yarra Valley eLearning Community

This research involves teachers and teacher coaches from seven secondary schools that became linked as an eLearning Community in 2005. The Yarra Valley eLearning Community occurred as part of the Department of Education Leading Schools Fund (LSF), Multimedia Victoria (MMV) Broadband Innovation Fund (BIF) and contributions from the seven secondary schools. The Yarra Valley
eLearning Community (YVeLC) was developed as a “model cluster of schools, informed by current research, which fully capitalises upon the integration of ICT as a tool in every classroom” (MMV, 2004, p. 5). The YVeLC project had funding of $12.7 million AUD (MMV, 2004, p. 1) for 14 full time staff forming an Educators group (See Figure 1), Infrastructure upgrades, 1:2 laptop program for all Year 7 and 8 students and a Learning Management System to deploy online learning and communication between teachers, parents and students (Ahles, 2005, p. 1). According to the proposal “The Yarra Valley eLearning Community Cluster is focusing on whole school transformation in the seven schools, working collaboratively at principal, leadership and teacher levels to form a powerful network for change. The e-rich environment and the challenges it promotes are seen as a catalyst promoting and enabling change.” (Yarra Valley eLearning Community, 2004, pp. 10-12) This research will focus on the networking and professional learning between teachers.

![Figure 1: Learning community staffing structure (image by Pennie White)](image)

**Literature Review**

The theoretical frameworks and research that contextualise this study are communities of practice, actor network theory and social constructivism. Other domains that contribute to this study include student-centred learning, collaboration, professional learning networks, professional development, leadership, educational change, eLearning, learning communities and online communities. Outside of the scope of my research are articles to do with the technical aspects of setting up online communication systems.

**Communities of Practice**

We all belong to many groups or networks in many aspects of our lives. When our experiences in these groups are sustained and become transformative then this network might be described as a community of practice. The term ‘communities of practice’ was first coined in the collaborative work of Lave and Wenger (Wenger, 1998). This is later clarified that “a community of practice is not merely a community of interest … Members of a community of practice develop a shared repertoire of resources: experiences, stories, tools, ways of addressing recurring problems – in short a shared practice” (Wenger, 2001). Communities of practice theory is one of the most significant frameworks to influence my research.

Communities of Practice Theory is a social theory of learning (Wenger, 1998, p. 4). Wenger (1998, p. 3) begins with the assumption that “learning, in its essence, is a fundamentally social phenomenon, reflecting our deeply social nature as human beings capable of knowing”. Wenger’s conceptual framework for learning as a social activity contains four main components that “are interconnected
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and mutually defining” (Wenger, 1998, p. 5). These four components; community, identity, meaning and practice may provide a good structure for the exploration into the eLearning community in this study (See Figure 2). The work of Wenger has implications for my research as it is guided by its assumptions about learning as a social activity in the context of organisations and daily life and this research may build on this area of knowledge of learning as a social practice.

Figure 2: Components of learning; practice, community, identity and meaning (Wenger, 1998, p. 5)

Henderson’s (2007, p. 162) study called “Sustaining online teacher professional development through community design” consisted of two case studies; one in Australia and one in England. Henderson worked with the teachers in a face-to-face session and then through a learning management system. His aim was to see whether communities of practice ‘could be designed for’ in order to sustain teacher professional development. According to Henderson (2007, p. 162), the “literature reveals that neither face-to-face nor online professional development, per se, sustains engagement”. Henderson (2007, p. 162) concluded, in line with Wenger’s (1998, p. 225) theory, that you cannot build a community of practice, however you can design for it.

Kilpatrick, Barrett and Jones (2003, p. 11) of the Faculty of Education, University of Tasmania, Australia, offer a definition of learning communities;

“Learning communities are made up of people who share a common purpose. They collaborate to draw on individual strengths, respect a variety of perspectives, and actively promote learning opportunities. The outcomes are the creation of a vibrant, synergistic environment, enhanced potential for all members, and the possibility that new knowledge will be created.”

In their study of why teachers use self-generated online communities Hur and Brush (2009, p. 280) found that “when designing teacher professional development programs, more emphasis needs to be placed on teachers’ emotional sharing and promotion of self esteem”. The study supports the concept of communities of practice where learning occurs while individuals are actively engaged in these communities (Hur & Brush, 2009, p. 281). Communities of practice theory includes an interesting concept know as legitimate peripheral participation. Lave and Wenger (1991) developed the concept of learning as legitimate peripheral participation as the way “by which newcomers become part of a community of practice” (p. 29). My research may identify examples of this practice occurring in the eLearning community.
**Actor Network Theory**

The second main theoretical framework that guides this research is Actor Network Theory (ANT) developed by Bruno Latour, Michael Callon and John Law (Latour, 2005, p. 10). Actor Network Theory is a constructivist approach that proposes that ideas and objects are important in the study of phenomena. Social theories often just focus on the people and relationships. By designing the research with Actor Network Theory in mind I hope that the participants, the ‘Actors’, in this research will have a greater voice than myself as a researcher. Another benefit will be that the ideas and technologies involved will be included as ‘Actants’ in the analysis. In this research I will build on social theory.

A study by Samarawickrema and Stacey (2007) called “Adopting Web-Based Learning and Teaching: A case study in higher education”, uses Rogers’ Diffusion of Innovations Theory and ANT to analyse the data collected during the implementation of a learning management system. Participants were selected on the basis of being innovative teachers (Samarawickrema & Stacey, 2007, p. 313). The study found that “safe adoption environments recognizing career priorities of academics are a results of continuous negotiation between the evolving institution and its innovative and creative staff” (Samarawickrema & Stacey, 2007, p. 313). It also found that “development of staff expertise with technology required more than just the acquisition of skills and that an ongoing program of staff development that raised awareness of how to teach with technology was more effective” (Samarawickrema & Stacey, 2007, p. 331). The literature, methodology and findings are relevant to this research as the learning management system will be important in investigating the eLearning community networks using Actor Network Theory methodology.

**Social Constructivism and 21st Century Learning**

The notion of student centred learning stems from the work of Piaget (1970s) and Vgotsky (1978). Piaget is known as the founder of constructivism and Vgotsky’s (1987) contribution would be adding the importance of the social element for learning. Dewey also proposed that learning should take place in the community (Fox, 2005, p. 96). Lave and Wenger’s (1991) idea about situated learning “resonated with Dewey’s, Illich’s and Freire’s” (Fox, 2005, p. 97). They and others argued “that learning in a practical social context is very powerful” (Fox, 2005, p. 97). The background thinking was done much before this next generation of theoretical development. This is a different approach from teacher centred learning or learning as a solitary activity. Students must learn to work collaboratively, practice problem solving skills, develop higher order thinking and be connected with the wider and global communities (White & Ahles, 2007, p. 1). This means a shift in preferred pedagogy for teachers to be facilitators of student learning rather than lecturers (see Figure 3). Content management systems can be used to support more student centred classroom as students are able to express themselves without interruption, with more frequency and are able to benefit from peer review (Bender, 2003, pp. 3-9). Students now need 21st century learning skills such as knowing how to work collaboratively and be connected to the globalised world.

![Figure 3: 21st Century Education teaching and learning pedagogy shift (White & Ahles, 2007, p. 1)](image-url)
A qualitative case study which compared eight schools in Hong Kong and Singapore found that “Leadership and the climate for collaboration and experimentation are fundamental to the integration of technology into pedagogical innovation” (Wong, Li, Choi, & Lee, 2008, p. 248). These findings were supported in research by Shi & Bichelmeyer (2007, p. 180) who compared findings from two ethnographic studies to discover how teachers’ experiences of computers had changed since the increase in ratio of computers to students. It found that factors such as lack of effective training, and need for collaboration and involvement in planning for computer use inhibited teachers (Shi & Bichelmeyer, 2007, p. 180). These studies support the need for a pedagogical shift towards student centered learning and integration of Information and Communications Technology use in the Curriculum and way to do this is through supporting the professional learning of teachers.

**Online communities**

The notion of classroom and space is changing. With the emergence of online communities that are ‘always on’ our notions of time and space are changing. We have hybrid learning spaces emerging that include cyber and physical spaces. Carboni and Riggsbee (2007, p. 109) conducted a four month web-based study to determine if an online forum could facilitate a learning community for teacher online professional development. The nine teachers involved in their study reported that participating in the “forum was a valuable experience and they would choose to participate again. They indicated that the forum provided a positive, supportive environment, one where they could connect socially and emotionally with others having similar experiences and frustrations” (Carboni & Riggsbee, 2007, p. 119). Online communities are established and sustained where social connections are made (Gerrard & Knox, 2006, p. 7; Henderson, 2007, p. 169) A study by Gerrard and Knox (2006, p. 1) investigated the different interactions that took place between participants using the Blackboard Learning Management System who were enrolled in a new subject Next Steps. This subject was a blended learning approach designed to assist students with the transition to higher education and the opportunities for socialization between students was intended. Dillon (2005) sought to explore “which characteristics of online communities may contribute to teacher professional learning”. Using a mixed-methods case-study methodology Dillon (2005) collected and analysed data from a web survey and semi-structured interviews. “… in relation to the case of OZTL_NET, various aspects of the concept of online learning communities and, to a lesser extent, communities of practice, are portrayed in the listserv.” Dillon (2005) found that the use of a listserv (online discussion network) significantly enhanced the professional learning of teacher librarians. Dillon’s (2005) work has a number of similarities to the present study including the use of communities of practice theory and a case study approach.

**Methodology**

This section explains the theoretical framework, methodology, participant selection, instrument selection and data analysis. My research seeks to reflect the voice of participants in the project by seeking their perspective on the developments of the project in the context with which they occur. The theoretical frameworks have been chosen as they are the most suitable for this research to achieve this. This work is situated in Communities of Practice Theory as the epistemological framework. This research uses social constructivist, ethnographic and phenomenologist perspectives as lenses to view the phenomena. The ontological framework is Actor Network Theory as this method will be used to trace a picture of the community through its ‘actors’.

Storytelling comes very naturally to many teachers. It is expected that the stories to emerge from the research will be rich explorations of the relationships and dynamics between people in communities using ethnographic narrative case study methodology. The Oxford Concise English Dictionary (2006) defines narrative as; an account of connected events; a story or the narrated part of a literary work, as distinct from dialogue. A case study is defined as; a detailed study of the development of a particular person, group, or situation over a period of time or a particular instance used to illustrate a thesis or...
principle (Oxford Concise English Dictionary, 2006). In their paper, *Stories of Experience and Narrative Inquiry*, Connelly & Clandinin (1990) explain that the study of narrative is a study of how people experience the world (p. 2). The narrative method is useful to this study as “it may also be sociologically concerned with groups and formation of community” (Connelly & Clandinin, 1990, p. 2).

**Data Collection, Analysis and Projections**

An email has been drafted to send to the Project Coordinator to forward to the email distribution list used by the project staff. Staff includes the Project Coordinator, Development Managers and eLearning Coaches. Staff who are interviewed will be asked to identify at least two teachers from their school and give them the invitation to participate. This process is known as snowball sampling (Patton, 2002, Al-Mahmood & McLoughlin, 2004, p. 40). Al-Mahmood and McLoughlin used this technique to recruit participants who had been online students and teachers at some point. I will use this technique to get exposure to people who have stories to tell. It is possible that this method may be help with the tracing the formation of networks involved with using Actor Network Theory. For example, the coaches might recommend particular staff members because they have interesting stories to tell about how they have worked together. In the next stage stories will be constructed from semi-structured interviews, online communications, and gathered from observations in the field and of visual artifacts.

The project staff and teachers who respond to the invitation to participate will be interviewed. The aim is to interview the 14 project staff and at least two teachers from each school. Project staff and teachers from the project will be interviewed on their collaboration with others, the Learning Management System, the laptop program, professional development, curriculum and pedagogy. Teachers and coaches will also be asked if they would like to offer any visual artifacts for use in the study. Data will be analysed by the common themes that emerge from the participants responses and in relation to theoretical frameworks. I will use NVivo® software to assist with this process. This technique was successfully used in the qualitative data analysis of transcribed interviews in the thesis *Conducting assessment online: educational developers' perspectives* by Donnan (2007, p. 91). Themes with which the data will be coded will still need to be identified as the software only helps to organize this process. It may be possible to code the data according to the four components of learning presented by Wenger (1998, p. 5); practice, community, identity and meaning. This may provide insight into what is needed to support teacher professional learning though communities of practice. This research will explore how online communications were used to support professional learning of the teachers and the coaches. The methods used include email, Skype (voice and chat) and Studywiz (Learning Management System).

**Conclusion**

This study is has come about because of the need to understand how networks bring about change and improvement in school environments as they evolve to meet the new skills and knowledge required of students in their future workplaces. The shift towards student centered learning, teachers as facilitators and learning communities or clusters have been identified as a way to achieve transformation to 21st Century teaching and learning in our schools (Department of Education and Training, 2002). This research may guide practice in education to ensure our innovation and teacher education is heading in the right direction for 21st Century learning needs. New definitions or categories of blended models of eLearning may be developed. It may guide those setting up future eLearning communities or those implementing learning management systems or changed pedagogies in educational settings. In particular, the Victorian Department of Education and Early Childhood Development’s pending statewide learning management system, the Ultranet, makes this research timely and significant.
Background of the researcher

I am interested in this area of research because I find the roles people play in organisations and how knowledge is shared is a fascinating area of study. I am an English and Humanities teacher with a passion for exploring how ICT can be used to enhance teaching and learning. I was a Development Manager for the Yarra Valley eLearning Community from 2005 to 2007, working collaboratively with teachers developing ICT rich resources guided by constructivist pedagogy. I was also involved in the implementation of 1:2 laptop program and learning management system. For the first six months of 2008 I was Junior Curriculum Manger at Monbulk College. I was teaching Year 11 and 12 English and an integrated Year 8 English/Humanities curriculum in the flexible learning centre with access to wireless laptops. I was seconded from my teaching position to be an Ultranet Coach in the Yarra Valley working on school readiness for the state wide learning management system. I am currently working as an Ultranet Coach in the Dandenong Ranges Network.

References

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