

CHAPTER 13

CONCEPTUALISING COMMUNITIES OF PRACTICE THROUGH EMBEDDED PROFESSIONAL LEARNING IN PRE-SERVICE TEACHER EDUCATION

Rickie Fisher, Bobby Harreveld and Jenny McDougall

Abstract

This chapter presents a conceptual framework developed around the notion of communities of practice in the context of pre-service teacher education. Specifically, it addresses the question: In what ways can the concept of communities of practice provide a framework for investigating the embedded professional learning of pre-service teachers? In this chapter, diverse yet interrelated communities of practice are identified: (1) a university community of students and lecturers; and (2) professional practice communities of supervising teacher mentors, other teachers and staff of individual schools. In this chapter distributed learning is used as a mechanism to support shared responsibility for learning among students, practitioner experts (i.e. supervising mentor teachers) and lecturers among these two communities of practice.

INTRODUCTION

Research on teacher education is giving increasing importance to communities of practice as prominent loci of learning and development in teacher training (Gomez & Rico, 2007, p. 25)

In pre-service teacher education, communities of practice can be established and sustained so that knowledge of, and skills in effective learning and teaching can be produced. This chapter uses the notion of communities of practice (Lave & Wenger, 1991; Wenger, 1998) to provide a conceptual framework for understanding the ways in which knowledge can be created during an embedded professional learning period in a pre-service teacher education program.

Lave and Wenger (1991) state that a community of practice is “a set of relations among persons, activity, and world, over time and in relation with other tangential and overlapping communities of practice” (p. 98). Similarly Wenger, McDermott and Snyder (2002) define communities of practice as “groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis” (p. 7). When groups of people are focused on a shared purpose for learning, and with the opportunities to interact on an ongoing basis to deepen their knowledge and understanding of this shared area of interest, they

are understood to be working in communities of practice. Within this chapter, this premise is investigated for its conceptual contribution to understanding ways in which pre-service teachers, university staff and school staff engage in the co-production of knowledge about teaching and learning.

At the heart of any pre-service teacher education program is the learning site—a school, college or academy in which practice teaching and learning takes place. This ‘on-site’ component is viewed as an essential ingredient to the program’s success (Cobb, 1999; Simpson, 2002). Known by names as diverse as the practicum, fieldwork, professional experiences or embedded professional learning, this component ‘is a core element in an initial or pre-service teacher education programme [sic]. It allows students to enact and reflect on their developing philosophies of teaching and is the ‘testing ground’ for theory/practice links’ (Simpson, 2006, p. 241). For the purposes of this chapter, this component of pre-service teacher education will be referred to as the ‘professional attachment’. Attachment to a learning site involves pre-service teachers and mentor teachers engaging with the dynamics of a ‘real-life’ educational setting and co-creating knowledge about effective pedagogies.

Pre-service teachers are adults. Prior to their enrolment in the post-graduate pre-service teacher education program that provides the context for discussion in this chapter, they may or may not have had recent experiences as learners in a formal study program. As teachers though, they are novice learners and as such

leaving them to float amidst rich experiences with no guidance only triggers human beings’ great penchant for finding creative but spurious patterns and generalisations that send learners down garden paths. (Gee, 2004, p. 6)

Gee’s warning is warranted. It does not follow that simply immersing pre-service teachers in schools, i.e. having them physically on-site for extended periods of time does not necessarily lead to learning that is valued in that context. Rather, it is the engagement in structured learning activities, modeled teaching processes and dialogic encounters in the experienced, lived-world that constitutes a community of practice. The ‘person-activity-setting’ triad is at the centre of situated learning in a community of practice (Lave & Wenger, 1991). While a broader conceptualisation of ‘situated learning’ is not explored in this chapter, it is implicated in the developing conceptual framework that will inform a future research study in this context.

Within pre-service teacher education, distributed learning is used as a mechanism to engage and situate key stakeholders within communities of practice. ‘Distributed learning’ is defined as a model of delivery in which responsibility for learning is shared among key participants across a number of sites, rather than dependent solely upon university expertise provided within university settings. Thus, distributed learning can “occur either on or off campus, providing students with greater flexibility and eliminating time as a barrier to learning” (Oblinger, Barone & Hawkins, 2001, p.

1). It depicts the diversity of activities, technologies, sites and partnerships students experience throughout their pre-service teacher education program (Cannings & Stager, 2003). For some, as in this chapter, elements of that program are undertaken either full-time (over one year) or part-time (over two years), constituting mandatory face-to-face residential workshops, access to course materials online, and extensive embedded professional learning in local schools. Due to the nature, purpose and deliberate design elements of this kind of delivery, pre-service teachers are able to participate in distinct, yet interrelated, communities of practice.

Initially, this chapter will investigate understandings of communities of practice including alternative views as to its usefulness in the field of formal education. The significance of this concept of communities of practice in the context of embedded professional learning will then be explored. The distributed learning model will be investigated as a catalyst for professional learning within a particular postgraduate pre-service teacher education program. The potential role of a distributed learning delivery model within this context includes many issues and implications for the members of both school and university configured communities of practice. Conclusions will contribute to collective knowledge about preparing people for a diverse teaching profession in the twenty-first century, utilising communities of practice as a framework for engagement.

COMMUNITIES OF PRACTICE: SHARING PURPOSE AND RESPONSIBILITY FOR LEARNING

Understandings about communities of practice in their current construction emerged from the 'learning organisation' research of Lave and Wenger (1991) with ongoing studies and refinements of the concept (Wenger, 1998, 1999; Wenger, McDermott & Snyder, 2002). A community of practice is recognised as having three dimensions:

1. its *joint enterprise* as understood and continually renegotiated by its members;
2. the *mutual engagements* that bind members together into a social entity; and
3. the *shared repertoire* of communal resources (routines, sensibilities, values, artifacts, vocabulary, behaviour styles) that members have developed over time (Wenger, 1998).

In Lave and Wenger's (1991) earlier research, the notion of communities of practice was used as a conceptual analytical tool that emerged from questions around people's participation in particular kinds of social engagements that provided contexts in which learning could occur. In other words, learning was understood to be a social process that does not rely solely on individual internalisation of knowledge.

In the field of formal education, the direction of their analysis has not always found favour. For example, Gee (2004) argues that formal institutions of learning do not automatically guarantee that a group of students becomes a 'community'. Students may not all engage in teacher-led or curriculum-driven tasks willingly or

with an unproblematically shared sense of purpose. In this argument, it is difficult to lay claim to being a 'community of practice' when compulsory coursework and individual assessment grades are in place. Nevertheless, studies conducted into the nature of situated learning in schools, inclusive of all members of school communities, suggest otherwise. For example, Rogoff, Turkkanis & Bartlett (2001) found that learning does occur through interested participation with other learners. It is here perhaps that the point of contention lies.

On the one hand, critics take issue with the implicit and/or unacknowledged importance of interest or motivation to *individually* engage in learning tasks. On the other hand, learning is as much about the relationships between people as it is about syllabus requirements and/or assessment grades. Indeed, if pre-service teachers do not have a positive relationship with their mentor teacher/s, then interest in set tasks will be minimal at best. The situated learning advocates argue that a community of practice framework provides structure which can support learning that builds on *individual and collective interests* in a collaborative manner.

Accordingly, a community of practice must have a clear purpose that is owned by all members. This constitutes the joint enterprise of the community. It must also have mutually acceptable ways of functioning as a social entity. In addition, the community must actually achieve something over a period of time. This means that community members must share their collective resources to produce capability of some kind. In the context of a postgraduate pre-service teacher education program, the capability to be produced is the capacity to teach and engage people as learners.

Like all human activities, a community of practice is not static. In its key characteristics, it encompasses five stages of development: the potential, coalescing, active, dispersed and memorable stages (see Table 1).

Table 1. Stages of development in a community of practice over time

1. Potential →	2. Coalescing →	3. Active →	4. Dispersed →	5. Memorable
People face similar situations without the benefit of a shared practice <i>Activities:</i> Finding each other, discovering commonalities	Members come together and recognise their potential <i>Activities:</i> Exploring connectedness, defining joint enterprise, negotiating community	Members engage in developing a 'practice' <i>Activities:</i> Engaging in joint activities, creating artifacts, adapting to changing circumstances, renewing interest, commitment & relationships	Members no longer engage very intensely, but the community is still alive as a force and a center of knowledge <i>Activities:</i> Staying in touch, communicating, holding reunions, calling for advice	The community is no longer central, but people still remember it as a significant part of their identities <i>Activities:</i> Telling stories, preserving artifacts, collecting memorabilia

(Adapted from Wenger, 1998)

From Wenger's earlier work, when used as an analytical tool, the work and interactions of a group of people thought to be functioning as a community of practice would be investigated for evidence of progressing through some or all of these five stages. When used as a curriculum design tool to structure a framework for learning, the conceptual challenge is significant. As already noted, simply putting people together in physical (and/or virtual) proximity does not necessarily mean that learning will occur.

Embedded professional learning

The significance for the use of these stages of development in pre-service teachers embedded professional learning within a one year pre-service teacher education program using a distributed learning design and delivery model lies in the expectation that community members can move swiftly through the first two potential and coalescing stages to operate effectively at the third active stage. This means that, at each school, the pre-service teachers and their supervising mentor teachers would meet and start finding out about each other. Through conversations, they discover their commonalities and determine the potential they may have for working together. They then explore the diverse ways in which they already connect (e.g. via discipline knowledge, life experiences, values and beliefs) and negotiate learning experiences that will define their joint enterprise in teacher preparation. By now there is potential for all members to recognise the contribution each can make, and to create and share knowledge throughout the community. Here individual differences and learning needs are also identified and planning for the next stage of action is undertaken.

At the third active stage, pre-service teachers and their supervising mentors jointly develop their community as activities are shared (e.g. doing playground/bus duty, curriculum planning, co-teaching and assessing, attending staff meetings, participating in extra-curricular activities such as sporting and cultural pursuits with pupils). Other community members—the pupils, fellow teachers, teacher aides, administrators, parents—are all involved in these jointly developed activities. For some pre-service teachers, the active stage may be extended if they end up working at that particular school after their graduation as a teacher. For others, the fourth stage of dispersal would begin when they finish their internship at the end of the year. If they stay teaching in the local area, then that stage may see them staying in touch with those other colleagues who did their professional attachment at that school, their supervising mentors and other community members. Interactions will come via, for example, curriculum panels, sporting fixtures, inter-school dances, debates and so on.

By the fifth stage, the pre-service teachers would still remember membership of that community as making a significant contribution to their development as teachers. The artefacts developed and preserved as teaching/learning resources would constitute memorabilia that may be used in their new teaching careers.

Stories from those times would be resurrected whenever community members meet e.g. talking with ex-pupil/s and their parents at the local supermarket, sitting on the same curriculum committee/s as former supervising mentors and so on.

Used judiciously within the organisation of the school, a community of practice such as that sketched in the previous example could contribute positively to the "creation, accumulation and diffusion of knowledge" (Wenger, 1998, n.p.). Because a community of practice can retain the implicit knowledge that formal systems cannot access, it is ideal for initiating newcomers into a practice. Furthermore, the collaborative inquiry activities of a community of practice make its membership valuable as people invest their professional development in making it work.

Traditionally, embedding professional learning as part of a professional attachment to schools has seen pre-service teachers positioned in novice-expert dyadic relationships with their supervising mentors. Conceptualising embedded professional learning within a community of practice provides a framework for understanding the ways in which key personnel (mentor teachers and pre-service teachers) work iteratively to construct, trial, revise and refine practices as members of the teaching profession. In addition, it facilitates a shift from using the professional attachment as a means of pre-service teachers extracting their knowledge and skills about teaching out of the practices of the school organisation, to that of engaging in learning activities that, in Wenger's (1998, 1999; Wenger *et al.*, 2002) argument, leverages the learning potential inherent in the diverse practices of that community.

While subtle, this shift is fundamental to construction of communities of practice and the creation, aggregation and dissemination of knowledge in learning organisations of the twenty-first century. A major component of this paradigm shift is the immersion of the pre-service teachers within the learning community for the majority of their program of study, and the direct link made between this professional attachment component and the university coursework studied.

DISTRIBUTED LEARNING AS A MECHANISM TO ENGAGE COMMUNITIES OF PRACTICE

Cannings and Stager (2003) highlight the need for pre-service teacher education programs to embrace a model of distributed learning in which responsibility for learning is shared among pre-service teachers, practitioner experts (i.e. supervising mentor teachers) and lecturers. Within the context of this chapter, the instruction and distributed learning occurs across two main platforms: 1) the program of study is offered on-line through external distance education; and 2) it includes significant in-school embedded professional learning in the form of the professional attachment. This mode of delivery has meant the responsibility for learning about teaching occurs through the pre-service teacher's engagement in residential workshops and on-line courseware, but also while on their professional attachment to a particular school site. This decentralised mode of operation relies

upon the participation of pre-service teachers in two overlapping communities of practice: that which may be contextualised as 'university-based' and that which is defined in terms of the embedded professional learning.

On-line delivery of courseware and study materials is frequently used within a distributed learning model. Pham (2002) indicates that there is a growing demand for external distance education pre-service teacher education programs that are offered on-line. A number of positive features are suggested. Not only can students enjoy being able to study and learn at their own pace, but the university can also reach a greater population with an intensified focus while enabling flexibility in study load and location. However, there are also many challenges for universities that invest in such delivery methods. Merryfield (2001) indicates students studying on-line find isolation to be an issue; in particular, they have problems forming bonds with their learning colleagues. This can also be linked to Cooke and de Betencourt's (2001) notion that difficulties faced in on-line learning engagement are due to the lack of interaction among students as well as interactions between students and university teaching staff.

In order to overcome such disadvantages, students are encouraged to interact with each other, using a variety of mediums. For example, when engaging in their on-line coursework, students might self organise into groups that support and sustain each other. Wenger (1998) explains that even when a community's actions conform to an external mandate (in this instance on-line coursework requirements), it is the community (in this instance the university community), not the mandate that produces the practice. In this sense, Wenger (1998) supports communities of practice as "fundamentally self-organising systems" (p. 1).

Pre-service teachers within the university community of practice become part of a "webby nonlinear causality of peers influencing peers" (Wilson & Ryder, 1998, p. 3). Through such mechanisms as discussion boards and virtual classrooms, on-line learners are provided with such opportunities to connect with and communicate with other students in their learning community. This has the potential to promote professional sharing and reflection on practice. Within a distributed learning model, pre-service teachers also have the support of their mentor teachers within their professional practice communities. Accordingly, this complements the support received from peers in the on-line learning environment.

The task of providing in-school embedded professional learning within a distributed learning model presents a particular set of challenges to program designers. Simpson (2002) notes that ensuring consistency of good teaching practices as models for pre-service teachers; providing a range of practical experiences; ensuring appropriate supervision of pre-service teachers; and providing suitable training for supervising mentor teachers as being problems associated with the provision of meaningful professional learning experiences in such pre-service teacher education programs. These challenges make explicit the need to define and enhance links between university coursework requirements

and school-site learning experiences. Graham (2006) also highlights the significance of the learning site and the crucial role of mentor teachers as “models of exemplary practice” (p. 1127) in embedded professional learning such as a professional attachment. Since pre-service teachers in an online program do not usually have the same access to faculty staff as their on-campus counterparts, the role of the mentor teacher is likely to take on even greater significance.

The Graduate Diploma of Learning and Teaching (GDLT) at Central Queensland University (CQU) uses a distributed learning model where the responsibility for learning is shared among mentor teachers, university lecturers and the pre-service teachers themselves through two communities of practice: their *professional practice community* at school and their *university community*. There are four major components to program delivery. First, all course materials for each of the individual courses (subjects) are accessed using an on-line course management system (Blackboard). Learning networks are actively encouraged on-line with pre-service teachers and university lecturers communicating through discussion boards, chat sessions and individualised or group email batches generated through the on-line site. While purpose-built interfaces like Blackboard may at times poorly emulate effective learning networks, pre-service teachers’ learning networks could extend beyond this interface by engaging in more organic mediated on-line spaces, through the utilisation of such devices as MSN Messenger, MySpace blogs and self generated wikis. Second, pre-service teachers are required to attend three compulsory on campus face-to-face residential schools (ten days in total), at which they participate in intensive workshops based on the courses they study each term. The third component is a mix of formal and informal face-to-face study groups. Pre-service teachers in local areas connect and engage in face-to-face communication outside of their virtual communication worlds to enhance their membership of the university learning community. The fourth, and perhaps the most significant within the context of this chapter, is the professional attachment to the school site for three days per week for school term two and three (fifty-six days total), followed by a six week internship in school term four.

Within this program there are opportunities for a shared purpose and understanding for learning to occur among the two communities of practice. By taking advantage of the range of educational experiences within this distributed learning model, pre-service teachers are able to establish important learning networks across these two communities: (1) the pre-service teachers are provided with the opportunity to share knowledge and experiences among their colleagues within the university learning community; and (2) they are able to utilise the expertise of mentors, practitioners and other ‘experts’ in the professional practice community to which they are assigned for their professional attachment. In this way, the distributed learning model promotes the pre-service teachers’ engagement in authentic/real world learning experiences in the two communities of practice.

ESTABLISHMENT AND MAINTENANCE OF COMMUNITIES OF PRACTICE IN TEACHER EDUCATION

If such communities of practice are able to be established and maintained in a pre-service teacher education program such as that discussed in this chapter, then the roles of the 'professional attachment' and the associated 'applied learning tasks' that are undertaken during this period of attachment to the school should now be examined. Distributed learning is discussed in this context because it is a feature of program delivery that may contribute to the development of such communities of practice over time.

The role of the professional attachment

A professional attachment experience may be considered central to a pre-service teacher's generation of knowledge within their program of study. One of the key aspects of any pre-service teacher education program is the mentoring of pre-service teachers by their supervising mentor teachers. As discussed, in the distributed learning model, pre-service teachers concurrently participate in both the school professional practice community (with their supervising teacher mentors) while also engaged in the university learning community (communicating with university lecturers).

In principle, this professional attachment and its associated internship addresses a potential theory-practice gap identified in the literature as hindering the capabilities of newly graduated teachers and their application of knowledge (DEST, 2003a, 2003b, 2006; Gibson, Hall & Manitzky, 2004; McMenimen, 2004). The immersion of the pre-service teacher within the learning site to experience, participate and engage in the professional practice community attempts to bridge the knowledge-practice gap by allowing and exposing them opportunities to contextualise knowledge and practice. This is achieved through extensively scaffolded applied learning tasks completed during the professional attachment.

These tasks for the university courses are completed both on-line and on-site under guidance from the teacher mentors and university lecturers. Such examples include:

- *Designing, implementing and critically evaluating lesson plans, units of work, assessment packages;*
- *Profiling learner cohorts for effective learning design considerations;*
- *Utilising available information communication technologies for effective design, implementation and evaluation of learning experiences.*

This, however, is only possible through the support and *active engagement* of the mentor teacher. In this context, there is a need for the conscious shared responsibility for learning.

COMMUNITIES OF PRACTICE: ISSUES AND IMPLICATIONS

The establishment and maintenance of communities of practice in a professional attachment performs what Beck, King and Marshall (2002) describe as the

"important function of assisting to bridge the theory-practice divide" (p. 3) in pre-service teacher education programs. A number of key issues have been identified in this investigation.

The theory-practice divide is ameliorated as both pre-service teachers and their teacher mentors are "taking part in both action and connection with others" (Wenger, 1998, pp. 55-58). This is central to the concept of community. The ongoing involvement of pre-service teachers in school communities promotes a more sustained and therefore potentially meaningful connection with the school community. This is fostered through the extended time-in-field through the professional attachment arrangements and the applied learning tasks. This ongoing participation enhances the role of pre-service teachers as valued 'functioning' members of school communities.

Communities of practice are created for the purposes of producing knowledge, supporting learning and improving practice (Buyse, Sparkman & Wesley, 2003). Pre-service teachers and their mentors are learning within 'real world' contexts and fostering the "development of self through participation in the community" (Barab & Duffy, 2000, p. 35). During their professional attachment, pre-service teachers learn about and engage in workplace culture, and develop strong relationships with both pupils and other staff members.

In such communities, "people with diverse expertise are transformed through their own actions and those of other participants" (Buyse, Sparkman & Wesley, 2003, p. 266). Here the role of the mentor teacher is integral to the co-production of knowledge. A key feature of a professional attachment is the completion of the applied learning tasks under guidance of the mentor teachers in a particular school community of practice. Pre-service teachers utilise the resources of the school community, as well as the university, to complete teaching and learning tasks. These tasks engage them in "knowledge-in-action" (Pham, 2002, p. 2) learning activities. Hansman (2001) states that communities of practice are effective sites for authentic learning and knowledge production.

As defined by Wenger and Snyder (2000), communities of practice are formed when groups of people are "bound together by shared expertise and passion for a joint enterprise" (p. 139). Within this context the 'shared expertise' is a combination of the mentor teacher's extensive professional practice knowledge as an experienced teacher, together with the pre-service teacher's application of emerging knowledge from their university coursework. In authentic learning environments, as outlined by Derryberry (1998), learners construct their own meanings and produce knowledge that they truly own. Within a distributed learning framework this knowledge is shared among the participants in the professional practice learning community and is used to enhance the classroom environment through the dynamics of multiple teachers' input and to allow pre-service teachers to use this knowledge to construct responses to the applied learning tasks.

The shared "passion" to which Wenger and Snyder (2000, p. 139) refer, may not be so easily relied upon. There are many reasons why a mentor teacher might

accept this role; to assume they are “passionate” about helping pre-service teachers achieve their goals may be overstating their position. Nor can it be assumed that all pre-service teachers are “passionate” about their goal to become effective classroom teachers. What can be argued is that the success of this relationship is dependent upon an agreement of purpose, expectations, and, at the very least, a willingness for mentor teachers to share expertise and a commitment by pre-service teachers to learn.

CONCLUSION

Communities of practice has been presented here as a conceptual framework for exploring the embedded professional learning of pre-service teachers. In particular, it has been used to examine the ways in which pre-service teachers and their mentor teachers become engaged in a shared responsibility for learning through a professional attachment to co-create knowledge. The changing face of the embedded professional learning in the form of the professional attachment has presented a number of issues, as well as implications, for future developments in understanding and investigating pre-service teacher education programs using such a distributed learning model, and in particular the co-creation of knowledge within the communities of practice.

The intent of this chapter has been to validate claims to use communities of practice in the context of the embedded professional learning of pre-service teacher education. The concept of communities of practice has been used to explore the shared purpose and responsibility for learning for pre-service teachers and their teacher mentors. The establishment and maintenance of the communities of practice through a distributed learning model has presented issues and implications for the effective co-creation of knowledge. Distributed learning in this context fosters the development of communities of practice over time through 1) curriculum design elements, and 2) the role of the professional attachment, in this co-production of knowledge about learning and teaching.

Immersion in the professional practice community of the school positions pre-service teachers to explore and evaluate their development as a teacher. Furthermore, it fosters a sense of belonging to a professional practice community. Through such aspects as the applied learning tasks, the pre-service teacher co-construct knowledge with their mentor teachers in one community of practice and their university lecturers and fellow students in the other community of practice. The issues and implications that this presents have been explored in this chapter.

Conceptually, the notion of communities of practice actively recruits pre-service teachers to membership of both school professional practice and university learning communities. As knowledge workers of the twenty-first century, they are not constrained by novice-expert continua or master-apprentice binaries of former generations, yet can utilise both when and/or if necessary. Further investigation is necessary if the potential for communities of practice to contribute to a conceptual framework is used to inform the design of future research in the field of pre-service teacher education.

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