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Sustaining the professional development of teachers through a model of community of practice

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Abstract: This research provides a less mechanistic lens in which to consider teachers' PD. It is argued that, essentially uncontrollable forces of community, identity and practice can be designed for, and ultimately sustain teacher engagement. This longitudinal study of Australian and United Kingdom teachers uses Wenger's theory of Community of Practice as both a design and analytical framework for Professional Development (PD). A model of community cohesion is proposed which recognises the need for teachers to explore their identity which is intrinsically connected to their practice. They need community brokers to help them to shift their trajectories into increasingly centripetal practices, and fundamentally they have to engage with other members in mutual, accountable and negotiable ways. During the course of this research, two groups of teachers participated in a face-to-face training day followed by a minimum four weeks online PD. However, both case studies reported engagement in the PD for more than twice this period. In addition, results suggest that sustainability was supported through community cohesion. In particular, participants' valued social interaction as a way of negotiating mutuality of engagement, reported accountability to joint enterprise despite issues of critical mass, and shared repertoire as a way of negotiating community membership.

1. Introduction

This research focuses on the issue of sustaining teachers' engagement in PD. The research literature generally agrees that, among other design principles, sustained PD is more likely, than 'one-shot' delivery models, to engender change in practices and thinking (for example: Downes et al., 2001; Hawkes & Romiszowski, 2001; Hawley & Valli, 1999; Kenny, 2003; United Nations Educational Scientific and Cultural Organisation, 2002; Vance & McKinnon, 2002). The value of a sustained approach is recognised by developers and participants alike, resulting in an increasing trend of PD to incorporate serial or follow-up activities (Downes et al., 2001; McRae, Ainsworth, Groves, Rowland, & Zbar, 2001). However, simply increasing the instances of face to face PD activity is not an option available to many schools and teachers (Henderson, 2004). Not surprising, there is a move towards online PD which is considered to be more flexible. However, the promise of virtual learning in teacher PD has proven elusive for a number of reasons including lack of social, emotional, and professional support (DeWert, Babinski, & Jones, 2003; Herrington & Oliver, 2000; Kreijns & Kirschner, 2001). In contrast, blended models that involve both face-to-face and computer mediated communication have been shown to be more successful in address the situated learning needs of teachers (Anderson & Baskin, 2002; Anderson & Henderson, 2004; Brosnan & Burgess, 2003). As a result this research explores how an online community focus in a

blended mode of delivery may sustain PD over time.

Lloyd & Cochrane's (2005) survey of teacher PD in ICT report that the most effective form of PD stems from participation in professional learning communities. Community is an increasing focus in PD research (see: Brosnan & Burgess, 2003; Ge & McAdoo, 2004; Vrasidas & Glass, 2004). A community approach helps to contextualise the debate over the mode of delivery, and instead focuses on the need to address the complex nature of teachers as members of a wider community, as professionals with specialist needs, and as situated learners. In essence, PD of teachers must recognise the interdependency of identity and practice (Henderson, 2006). This research uses Wenger's (1998) theory of Community of Practice to both explain and design a PD course that would encourage elements of community and consequently sustain engagement.

1.1 A Model of Community Cohesion

Wenger (2001) argues 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' (pp. 2-3). However, they 'are connected by more than their ostensible tasks. They are bound by intricate, socially constructed webs of belief, which are essential to understanding what they do' (Brown, Collins, & Duguid, 1989, p. 34). This places the issue of identity on centre stage. In order for teachers to transform their practices they must enter into what is essentially a personally transformative experience that occurs over time. Wenger "encourages us to consider educational designs not just in terms of techniques for supporting the construction of knowledge (let alone in terms of delivery of curriculum), but more generally in terms of their effects on the formation of identities" (Fowler & Mayes, 1999, p. 11). Wenger (1998) argued that practice and identity are inseparable components of all Communities of Practice. Practice is more than what we do. It is how we perceive our environment and how we interact with what goes on around us. At the same time, our identity which frames how we perceive ourselves and what is important to us, shapes and is shaped by our practices.

At a community level, both practice and identity sustain a community and therefore learning (Wenger, 1998). Wenger (1998) argued that a community's cohesion is a product of the extent to which practice and identity are invested in mutual engagement (doing things together), joint enterprise (responding together to the organisation's needs and goals), and shared repertoire (resolving problems together). As a result, this research proposes a model of community cohesion as illustrated in Figure 1.

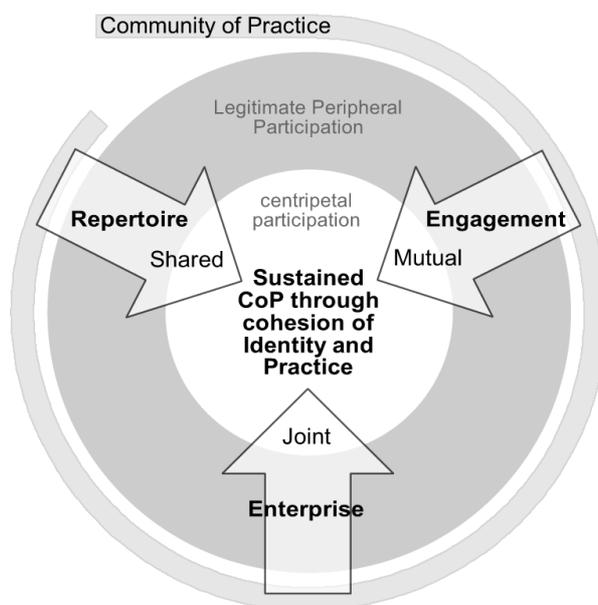


Figure 1. Model of community cohesion

An example of mutual engagement could be teachers who work together, have coffee together, attend meetings together, etc. The same teachers would be involved in joint enterprise, such as responding and aligning themselves to the same departmental requirements and guidelines. Furthermore, the teachers would share their repertoire of ways in which to meet their needs, such as the departmental requirements. In this way the teachers reshape and reinforce their identities as members of the community as well as negotiate and propagate the community's practices. Obviously this process of change occurs over time. However, there is no minimum length of time needed; instead, "it is a matter of sustaining enough mutual engagement in pursuing an enterprise together to share some significant learning" (Wenger, 1998, p. 86). The degree to which the emphasis must be sustained is something which Wenger and the literature in general do not answer.

Practice and identity cannot be externally defined. While a set of procedures can be imposed by the institution the practices surrounding those procedures are a result of negotiated meaning by the community members. Similarly job descriptions do not define members' identities. Communities of Practice, and therefore learning, cannot be designed, created and controlled. This is significant for the current investigation because it suggests that we cannot create a Community of Practice for specific PD goals. However, Wenger (1998) argues that while you cannot design the learning you can design *for* learning. In other words you can design an environment that will either facilitate or frustrate emergent practices and identity. Wenger (1998) draws on the concept of legitimate peripheral participation and states that "required learning takes place not so much through the reification of a curriculum as through modified forms of participation that are structured to open the practice to non-members" (p.100). Learning is more than a process of handing down a defined body of knowledge to new-comers, rather it is best described as a process of catching up to a dynamic, changing and essentially social practice. Aspects or versions of these practices are offered to new-comers who can legitimately participate in a centripetal trajectory. Furthermore, Wenger (1998) points out that practice is not a result of design but a response to design. Therefore it is important that any design for learning balances prescriptive measures with that of emergent practices.

2. Research Design

In order to explore the role of community in a small PD course the researcher developed a blended course designed to facilitate community cohesion. The PD course started with a face-to-face training day, ostensibly devoted to technical skills relating to the software. However, a significant aim of the face-to-face training was to give participants opportunities to engage with each other in both professional and social contexts. Social engagement between sessions, including lunch, was moderated by the participant researcher to facilitate swapping of stories. The training day was then followed by an online course which included both individual and collaborative tasks. The course comprised of four modules of combined theoretical and technical skills and was designed to be completed within four weeks. The course propositioned only one rule: support your fellow community members. This rule guided the time-line, content, goals, and assessment. For instance, the collaborative tasks were predominantly centred on evaluating and responding to each other's contributions. The course facilitator acted as a community broker between the local and global communities, as well as facilitated the rhythm of the community through maintaining a flexible, enthusiastic and inclusive approach to course pace and goals. Further design issues will be discussed in the results section (see also: Henderson, 2006).

Research in Community of Practice is dominated by a case study approach (Johnson, 2001). Certainly, the current research aim cannot be achieved through clinical or experimental studies. The variables are far too numerous, the causal relationships are unclear, and the nature of the study revolves around deeply subjective topics, such as identity or trajectory of community membership. However, a case study methodology is "the preferred strategy when 'how', 'who', 'why', or 'what' questions are being asked, or when the investigator has little control over events, or when the focus is on a contemporary phenomenon within a real life context" (Burns, 1997, p. 365). In addition, Yin (2003) argued that a multiple-case study approach is particularly suited to 'how' questions, as it allows the researcher to account for the numerous contextual variables which could not be externally controlled or manipulated. Using multiple-case studies can lead to a richly descriptive and inclusive investigation that will give some insight into what may be important themes for further studies. As a result, this research was conducted on two case studies, one in Australia and the other in the United Kingdom.

Data was gathered throughout the PD course. A brief questionnaire was administered upon enrolment and a questionnaire was administered shortly after the face to face training. During the post face-to-face phase, e-mails, discussion boards and shared resources were archived. Throughout the face to face and online phases the researcher kept observational notes. After the course was completed by the participants and the observed level of interaction (as indicated by numbers of discussion forum posts and website hits) appeared to be in decline, the semi-structured interviews were carried out. The questionnaires, archived records, and interview transcripts were analysed using Nvivo.

3. Results and Discussion

The Australian case study included five secondary school teachers from a range of curriculum areas including computer studies, English, history, and social science. The United Kingdom case study began with four secondary school teachers of computer studies. One of the UK teachers attended the face-to-face training day but failed to migrate to the online learning environment. The reason for this failure was not explained. Despite this aberration the remaining participants in both case studies indicated a sustained engagement over time with participation ranging from seven to thirteen weeks. This is significantly longer than the four weeks required in order to complete the course. Figure 2 displays a comparison of the total number of site requests and forum posts for each of the case studies. CS1 refers to the Australian case study and CS2 refers to the UK case study. Site requests include any requests by the participants' browsers to view content, announcements, and discussion forums.

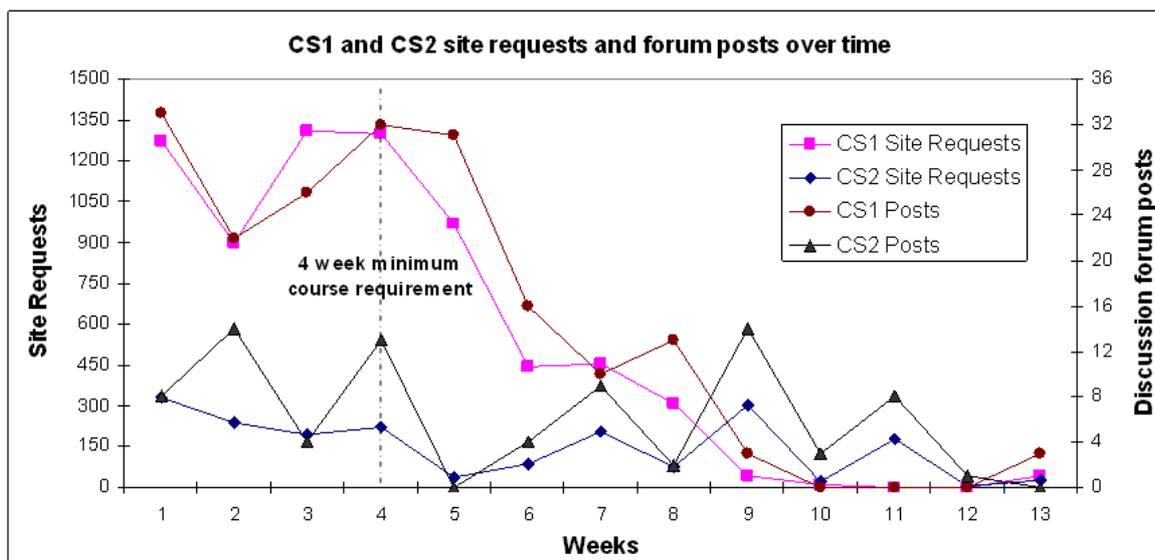


Figure 2. CS1 and CS2 site requests and forum posts over time.

Figure 2 indicates the total number of site requests and forum posts for both case studies not including the course facilitator. Site requests include any requests by the participants' browsers to view content, announcements, and discussion forums. As shown in Figure 2, CS1 site requests and posts were sustained at a high level for five weeks and at a medium level for an addition three weeks before dropping to no posts and minimal site requests in the tenth week with a brief renewal of participation in week twelve. In contrast, CS2 had a lower level of site requests and forum posts in the initial weeks but generally sustained this low level of participation through to week thirteen.

Frequency and volume of site requests and forum posts are only one indicator of course participation however analysis of archived materials such as the posts and emails also support the pattern indicated in Figure 2. The reasons for the extended participation are predictably complex. Nevertheless the data collected supports the presupposition of a community-focused blended approach as a positive framework for sustained engagement.

3.1 A community cohesion approach to course design

The course propositioned only one rule: support your fellow community members. This rule guided the time-line, content, goals, and assessment. For instance, the collaborative tasks were predominantly centred on evaluating and responding to each other's contributions. Although the core materials of the course were provided, the essential element of critical evaluation was left to the participants and consequently, when combined with the need to support each other, both encouraged and gave license for the sharing of opinions, experiences, stories, ideas and even divergent trajectories of inquiry. The relationship between engagement, enterprise and repertoire can also be seen in the following quote:

As we got to know each other better, I think through the [social forum] and through you know everything we had to do on the course and how we had to support each other, I think we all became okay with admitting or asking for help.

In this example both social and other engagement combined with joint enterprise facilitated shared repertoire. It is also important to note the reference to time 'as we got to know each other... everything we had to do... we all became okay'. This supports the community cohesion model which argues that sustained mutual engagement in a shared enterprise leads to shared repertoire. These elements, including their role in negotiating practice and identity are further explained below.

3.1.1 Mutual engagement

Unlike traditional PD which focuses on skill based engagement, the community cohesion model argues that mutual engagement is more than achieving task goals, it provides the social environment in which communities can form and in which practice and identity can be negotiated. According to the community cohesion model it is essential that participants are given opportunities to do things together and thereby to explore and shape both practice and identity. The impact of mutual engagement, and its interdependence with joint enterprise and shared repertoire is highlighted by a teacher who commented: ‘the support I felt... when [they] made the effort to participate, yeah... that was really important because [they] made an effort to make mine work.’ Furthermore, the results of this research clearly indicate that social engagement is as important in the shaping of identity and validating practices as engaging in purposeful situated tasks. This case study found that all of the participants placed considerable value on social engagement both in the face to face day and in the online environment. This is reflected in participant engagement in the forums as shown in Table 1.

Table 1. CS1 and CS2 social and content forum posts.

	Social Forum		Content Forums	
CS1 Accesses	615	37%	1053	63%
CS2 Accesses	142	36%	249	64%
CS1 Posts	66	35%	123	65%
CS2 Posts	28	35%	52	65%

In both case studies the participants accessed and posted to the social forum at a remarkably similar level. Approximately one third of the forum communication was not directly related to the content of the course. However, the participants clearly cited the social interaction as being a significant influence in generating a sense of responsibility to the group and consequently sustained engagement in the course content.

In the first seven weeks of the course, participants experienced bereavement, illness, school excursions, school holidays, as well as the full gambit of work demands including marking and moderation. However, through the support provided by the social engagement they could (re)negotiate their membership of the community as seen in this extract:

“Um, when one of the girls had to fly out for a funeral... everybody made sure that they had posted and... when I said I’d been ill, everyone [asked] “are you okay?” And I expressed at one stage that, um, I felt very intimidated and so forth by [their] knowledge levels and everybody came on and tried to reassure that I would cope. And I think I have coped.”

Social engagement provides an avenue for the community to respond and sustain its members despite external pressures. The competing demands on teachers are one of the reasons why engagement in PD over time is difficult to sustain. However, in this case study the online learning environment supported the participants by being both emotionally receptive as well as being flexible in its deadlines. This kind of support is essential in facilitating and sustaining mutual engagement.

The facilitator also played an important role in sustaining engagement. The facilitator acted as a community broker helping participants to shift their trajectories into increasingly centripetal practices. When participants were absent from the course for a period of time the initial process of

rejoining the community was often facilitated by the timely intervention of the facilitator; usually in the form of a direct e-mail summarising the most recent activity in the course and how they could join in. Also the facilitator was seen as a force for motivation and encouragement: '[he was] always there to give feedback, to give support, to just motivate people and keep them going.' In the UK case study a number of participants indicated that they felt there was a lack of 'critical mass' in terms of discussion and participant interaction. They attributed this to the small number of participants. Consequently their participation and motivation lagged and resulted in a greater dependence on the course facilitator. Indeed, all of the participants reported that the facilitator was crucial in helping them to reconnect with each other. In this regard, the facilitator acted as a community broker, helping members move into more centripetal practices.

3.1.2 Joint Enterprise

Unlike traditional professional development the community cohesion model does not assume that participants will accept the goals and values of the course designers. The model argues that joint enterprise is a process of responding together to challenges, expectations, and goals usually proscribed by external forces, however, it does not mean that the community members must accept those goals, but rather through negotiating commonalities in their response to those demands they can establish a framework for sharing repertoire. The more the members are invested in joint enterprise then it is more likely that situated learning will occur. In the pre and post face to face questionnaires the participants stated that their motivation for doing this course was a desire to broaden their teaching practices and improve student engagement. However, when interviewed at the end of the course all participants recognised this desire but cited accountability to each other as significant motivation for ongoing participation.

The participants had invested themselves in 'supporting their fellow community members.' However, this joint enterprise was not imposed, rather it was encouraged by careful course design and facilitation. For instance, all the participants cited the initial face-to-face day as having a significant impact on establishing 'commonality':

We got to have a chat and got to see not only the teacher side of people but also ... the sharing side of people and what's been happening in people's lives and that sort of thing and there's that camaraderie that's established, that commonality of purpose.

The course participants agreed that the face to face training day helped to establish that despite their different backgrounds and skills they were asking themselves the same question 'how can I use this to improve my teaching?' They found common ground and a common response expressed as a professional ethic in dealing with one another:

I guess it's something that you impose on yourself... There's an unspoken etiquette... as to how you deal with things and how you support one another... to make something work... It is, to a certain extent, a team thing. Like if one person posts something on a discussion forum and no one responded to it, then it would be like well there's no team effort.

This sense of accountability to each other was a joint response to the tasks facing them. One participant explained that this joint response arose from mutual engagement: "the more social interaction there is I think the more people buy into each other's kinds of values, beliefs or whatever... [and] will go back on line and participate more." In this example ongoing participation in the PD is perceived as an outcome from investment of identity and practice in joint enterprise, which in turn is an outcome of mutual social engagement.

3.1.3 Shared Repertoire

Unlike traditional professional development the community cohesion model sees the sharing of ideas and strategies as being a process of negotiating not just practice but also identity. When a member relates an experience or explains a solution they are negotiating the legitimacy of their practice and identity. One teacher described how she sometimes posted messages on the discussion forum but then immediately deleted them, she explained, 'I didn't want to come across sounding silly and some of the things that were written [by the others] were really good.' Consequently the teacher developed a strategy 'often, I'd think really carefully before [posting]. I'd do a bit more reading and back myself up and then stick something on the [forum].' This highlights the issue that shared repertoire is not only about negotiating practice but also identity. Quality interaction was defined by one participant as "the way you respond to other contributions and the original contributions you make". Sharing of repertoire is a meaningful act of community membership. It is not risk free. One teacher commented: 'you feel as though you have to meet a certain standard and if you don't meet that standard then you could be judged as lacking and I don't like to ever feel like that.' However, it is important to note that the standard or legitimacy of practice is negotiated by the community members themselves as opposed to being defined by the course facilitator or course designer:

I actually felt a little bit intimidated by her to start off with because she knew so much... she was making all these comments and I thought oh my God, I feel like a real dunce in comparison to what she said!

The participants valued shared repertoire or as one teacher commented: 'I needed the other participants to act as a sounding board... just having that other person's point of view, helps me look at it in a different light or understand it better.' Another participant agreed: 'they're really important in the same way that peers are important in anything else, they give you validation.'

Indeed, the sharing of repertoire set the tone and established the boundaries of the community. Participants in both case studies indicated that they initially accessed the discussion forums whenever they logged on. The forums became a way of deciding on what is important and how they should prioritise their time. One participant said, "there were some interesting points that... peaked my interest but then I had to go into the content and try and unravel what they were talking about." Here, sustained engagement in PD is facilitated by the process of investing identity and practice in shared repertoire.

4. Conclusion

The community cohesion model proposes that a community is sustained when teachers work together (mutual engagement) responding to a common need (joint enterprise) and consequently share their ideas, stories, experiences and skills (shared repertoire). This process is as much a transformation of identity as of practice. In both case studies the results suggest that the community cohesion model has a role in sustaining professional development in small scale, mixed-mode courses. In particular, the research indicates that the face to face training and the social discussion forums were critical in facilitating mutual engagement. In addition, the course facilitator played an important role as a community broker, helping participants to re-engage and to shift their trajectories into more centripetal practices.

Joint enterprise was seen in the in the high levels of commitment or accountability to each other. This was established through negotiable course goals and resulted in sustained participation in the PD despite a perceived lack of critical mass. The final component of the community cohesion model is shared repertoire through which participants were able to negotiate community membership. Shared repertoire was a way to explore identity and practice within the CoP but also a way to identify and access the more valuable parts of the course content and consequently facilitate centripetal practices.

In conclusion, the community cohesion model is a less mechanistic lens in which to consider teachers' PD. Essentially uncontrollable forces of community, identity and practice can be designed for, and ultimately sustain teacher engagement.

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