# Designing for online communities of learning

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***Abstract***

*This paper will explore the development of online learning communities among postgraduate students at Deakin University who were studying while working. The main objective of the research project being discussed here was to identify impediments to the development of online communities of learning and to suggest how these may be overcome so that students could benefit from the enhancements that online learning communities bring to communities of practice in students' workplaces. While communities of practice develop quite naturally among people working in the same physical space, as people learn from each other as they carry out their tasks at work, they are more difficult to establish in an online setting. Interviews were carried out with students and teachers and the data collected are described. Differing designs of courses, particularly the role of the teacher and the size of the classes, are considered and learning community development in both blended and distance learning environments are discussed.*

***Keywords***

*communities of learning, online learning, blended learning*

## Introduction

This paper discusses research that explored the often-discussed notions of communities of practice in the workplace and their interrelationship with communities of learning — particularly those conducted online. Postgraduate students at Deakin University, who were working while studying, mainly off campus, were interviewed about their experiences and while most agreed that they had a community of practice in their workplaces, the process of developing communities of learning online in one semester courses appeared to be more problematic. This paper explores the differing designs adapted for these online communities of learning and discusses the roles of teachers and students in developing learning communities and in using both strategies and technologies (including mainstream learning management systems) for this purpose. It also records the different ways in which student-student interaction took place, the extent to which communities of learning were formed and the value students found in this form of interaction for their studies, or for their workplaces.

## Overview of the literature

The concept of learning in community has become increasingly interesting to adult educators (Stein & Imel, 2002). Publications on the design of such communities, how to 'build' and 'grow' them and subsequently sustain them have emerged, some with a business focus (e.g., Wenger et al., 2002) and others with a community focus (Preece, 2000; Kim, 2000), most interest being focused on how to establish *online* communities to mimic the learning described and documented by Lave and Wenger (1991).

While there has been some enthusiasm for the transfer of the notion of communities to an online environment (Kimble et al., 2000; Robey, Khoo et al., 2000; Rogers 2000; Bird 2001), some doubt surrounded the establishment of *learning* communities which were online. In 2003 Schwen and Hara concluded that many of the negative aspects of communities of practice had been suppressed:

> "… positive connotations of 'community' have been retained while the negative or destructive aspects of community have been moved to footnotes or underrepresented by the exclusive use of positive examples."
>
> (pp. 254–255)

Others indicated there were doubts surrounding the value of communities for learning, or online communities, in particular (Eraut, 2002; Moore & Barab, 2002; McLaughlin, 2003). Recognising an opportunity for investigators into online learning to sharpen their critical awareness, to "challenge the widespread enthusiasm about the communities of practice construct and online communities" (Schwen & Hara, 2003, p. 261), we developed a research project that had such a focus, thereby building on

an earlier study of online communities of learning and workplace communities of practice (Stacey, Smith et al., 2004), which concluded that learning could effectively take place between communities as well as within them, although the degree to which this could happen was largely circumstantial.

At much the same time as we launched our research Wilson, Ludwig-Hardman et al. (2004) published their investigation into the constraints of forming online learning communities within university courses, showing, we believe, that this was a topic of interest to academics. They built on much of the literature reviewed here in writing about "bounded communities" of a typical semester length course wherein, unlike the natural development of communities of practice that Lave and Wenger observed, communities are bounded by time constraints of a semester as well as being bounded by the requirements of the course. They discussed the importance of the teacher in facilitating, supporting and leading such a community and particularly focused on the design of a course and ways in which the teacher can include community-building strategies. Their model does assume a reasonable teacher–student ratio as the teacher is required to project a strong teacher presence, modelling community building behaviour, continually monitoring student learning, and being aware of and helping to resolve any problems.

## Research study

In the research study described in this paper, we expected to refine understandings of interaction between communities, and how effective links are formed. The main objective of the research project was to identify impediments to the development of technologically mediated communities of learning and to suggest how these may be overcome so that students at Deakin University could benefit from the enhancements that online learning communities bring to communities of practice in students' workplaces. While communities of practice develop quite naturally among people working in the same physical space, as people learn from each other as they carry out their tasks at work, they are more difficult to establish in an online setting.

Knowing this, we designed the research to ask:

i. To what extent are students forming online communities of learning?

ii. To what extent do these have an influence on students' communities of practice?

iii. What factors are associated with difficulty in forming productive online communities that potentially benefit workplaces?

We expected the findings to inform both the design of online programs in higher education and staff development programs. The intention was to add to existing models of online teaching currently used in the university so that the benefits flowing from interaction between communities of practice might be more widespread in units of study, especially those with a professional practice focus.

The research was a qualitative study that involved twelve participants from the Deakin Business School: three lecturers and nine postgraduate students. The participants were volunteers. They were ideally suited to our needs as researchers as each of the students was mature (in age), professionally engaged, and taking a higher degree of study: the lecturers were experienced and could draw on years of practice in online communication.

All of the participants had a good understanding of the concept "community of practice", which was an advantage when conducting the interviews. The substantial proportion of the fieldwork was conducted in a face-to-face situation but telephone interviews were conducted with those who could not reasonably be contacted in person. The interviews were recorded and the recordings were used for extensive note taking. The notes, approximately 800 words for each of the student interviews and over 1500 words for each of the lecturers, took the form of lists of key points. These key points were compared to ascertain which types of responses recurred.

From the recurring responses we identified patterns, which we believed to be significant, and these were recorded as our findings. Where convenient, tables were used to manage the analysis of the data. It was a process that combined objectivity — using frequency of responses as a guide in analysis — and a subjective handling of the data, ensuring that the research was not limited by a formulaic approach.

We asked the lecturers about their intentions in setting up online communication for students, whether the implementation of the online component had gone to plan, and if they were satisfied with the outcomes. We enquired about the structure of the online element of the units of study they taught, the expectations regarding student participation, and the relationship of online interaction and assessment. We sought information about interaction between the students' communities of practice and their online communities of learning and how much of this happened online.

We asked students to describe their learning community and to explain to what extent other students they had met online were part of it; we asked how much of student-student interaction was technologically mediated. We enquired whether the learning community, especially the online community, influenced either their studies at Deakin or their community of practice at work. We asked what factors facilitated or inhibited interaction between communities.

We obtained documents and verbal accounts of how collaborative assignments were conducted and the place of these in terms of assessment. We were informed about changes to the post-graduate degree, over years, and how this affected the teaching/learning program. There was also informal discussion of the online learning management system, WebCt Vista™ (called Deakin Studies Online, or DSO) and how this had influenced online communication in the last year. Relevant information from all these sources was taken into account in interpreting the research findings.

## Results and discussion

The students studying in the MBA units were encouraged to form groups in each of their subjects. They used the online discussion area to set up groups and could also communicate through a small group space. In the main their tasks involved them in developing group outcomes for assignments, though they could choose to submit individual assignments if they indicated they were unable to take part in a group. Summative assessment was usually by examination. The students studied different subjects in the course and some of these had been designed for a high level of interaction, online, for those students who had no face-to-face component in their study. The online discussion was facilitated by the lecturer but the whole group space was used in most subjects for posting administrative advice and additional resources, answering questions and prompting aspects of the course timeline, such as the intensive residential classes that were held each semester. Small groups often met if they were located in the same area, spoke by phone or used email, which was the most common communication tool in their daily work.

The analysis of the data obtained from student interviews produced the following list of observations about (a) students' use of online discussion, and (b) students' perceptions of belonging to an online learning community.

*(a) Students' use of online discussion* (the list is ranked; most frequent use is listed first):

- Reading messages in the general discussion space.
- Checking the discussion for questions/answers between students and lecturers.
- Consulting unit outlines.
- Checking for information updates (e.g., assignments).
- Participating in study question activities with the lecturer.
- Accessing notes and readings.
- Contacting lecturers.
- Finding resources (e.g., suitable databases).
- Forming groups for assignment purposes.

Students indicated a reluctance to use DSO more extensively for two main reasons: other modes of communication were more convenient or more suitable and the discussion forums were neither a stimulating nor a rewarding place to spend time. Students drew attention to the following factors that influenced their (non) use of DSO:

- It was awkward (inefficient) to use.
- Personal email, the telephone and face-to-face meetings were preferred forms of communication.
- Discussions were limited: they rarely contributed to an understanding of unit materials.
- The support given by lecturers was not always as needed.
- Online discussion was not encouraged a great deal.
- Students did not have the time to use it.

*(b) Students' experiences of online learning communities in subjects they had undertaken for their MBA*:

- Some students were hesitant about saying they feel part of an online learning community, even though predisposed to (or practised at) working online. Only two students felt they had a sense of belonging.
- Most students' involvement was limited to getting updated information from the discussion space; the large group context did not encourage participation, nor did the content of the discussion encourage involvement.

- Online communication was appreciated for its ability to enable a person to feel connected to the uni in some way, even if not in an academic sense, or to obtain a sense of security through working with others, but …
- A feeling of community was sometimes more effectively developed through telephone contact and/or personal email, or by face-to-face contact. Residential schools strengthened students' sense of a learning community.
- Personal email proved to be most convenient way of establishing effective online work/learning communities. However, for many students who valued the participation of lecturers and/or other students in their learning, the online discussion was still important.

Students not only had the opportunity to engage with others in a learning community through an open online discussion group but were also required to complete assignments in groups. Commonly, this entailed online collaboration. Information from students indicated there were two predominant views of learning "in community" through group assignments: some saw it as being beneficial and others saw it as being problematic.

The success of group work often depended on the formation of a successful group — people who were compatible in terms of their expectations of 'input' into the MBA. Whether the group was online or not was not as important as having committed people who were reliable; however, students liked personal contact with other group members because it tended to make them "more accountable". Those students who had experienced collaboration in a successful group found it beneficial for their MBA and for their work. They often tried to team up with the same students in other units, forming a small learning community within the larger one. It was clear, through a simple mathematical analysis, that about one third of students' experiences of the online learning community were positive; one third were not sure and one third relied on face-to-face contact to feel connected to a community. There was certainty amongst students that the MBA had influenced their workplace community of practice but there was, generally, an uncertainty about the contribution of the online learning community, if there was such a community at all. The online learning community had benefited perhaps four of the nine students, but not significantly. Tabulation of the data made this evident.

*Table 1: Student responses: Communities*

| Students interview | Learning community | Workplace community of practice | Influence of one community on the other |
|---|---|---|---|
| Student 1 | Participates because he has to | Not in his office but does interact with other business managers online | Interaction can be positive or negative |
| Student 2 | Has her own learning community, not one established through Deakin's MBA | There is not much opportunity for this, even though learning is valued highly by the organisation | Some, but no dramatic influence |
| Student 3 | Has benefited from online participation | Is part of company and wider CoPs | There is no significant influence because her workplace resists change |
| Student 4 | Hesitates to say he belongs to a community of learning but feels linked to the uni and other students 'in the same boat' | Has interaction with all parts of the company he works for | Has transferred learning about motivation and leadership but not necessarily through online interaction: but people resist change at work |
| Student 5 | Does not have sense of belonging online; likes residentials which result in better learning | Belongs to 3 workplace CoPs. Uses teleconferencing, email and f2f meeting in both formal and informal settings; there is positive interaction between CoPs | No effect of learning community on work; possibly the other way around |
| Student 6 | Has bad experience of group interaction; prefers to limit himself to 'a mate' | Has CoP of 10 people at work; belongs to CoP of other managers; prefers phone, does use email | Has learnt some things informally from his study partner/friend |
| Student 7 | Found security in the learning community, online | Has networks in Melb and interstate and in NZ. Has f2f contact and email | No noticeable influence |

| | | | |
|---|---|---|---|
| Student 8 | Felt a good sense of community online; this was strengthened by meeting people at residentials | Has 100+ in company CoPs and 3 at his workplace; experiences good interaction | Yes, she feels both the MBA and the online community have had an influence |
| Student 9 | Benefits from interaction with other students but had trouble finding the right people … does not have a good sense of belonging | Meets f2f with people at her workplace | The learning community helped her to develop negotiation skills etc which she can apply at work |

[Notes regarding online learning communities and how they relate to communities of practice at work]

The full texts of the student interviews indicated that were generally hesitant to say that they felt as if they were part of an online learning community if their small group interaction had been conducted predominantly in face-to-face meetings and through telephone calls and if they had used the structured online class space only rarely. Most of them were competent at working online but some talked about minimising their participation if they were at work: their experience was that using email in the workplace was regarded as acceptable, but if their fellow workers saw the Deakin portal with the learning management system open on their computers they would be known to be studying rather than working, that was not acceptable. It was one of the factors that discouraged its use.

Personal contact seemed to be important: face-to-face communities were considered to be better than online communities or face-to-face contact was seen as an important 'starter' in community building. Two students formed a "community" with each other, as that was the most practical arrangement for them, in their case: they were friends and lived in the same district. However, there was an important exception to this pattern (of students' sense of community being dependent on personal contact). Two students who had participated in a particular unit where the lecturer facilitated intensive online discussion — as in a classroom — both reported a very positive experience of belonging to an online learning community. We were interested in this difference in response and believe that the quality of their online experience and their sense of belonging to a learning community could be directly linked to the design of the interactions in that course. We did not have the opportunity to pursue this point and obtain further detail but realised, from the information given at the time of the interview, that the characteristics of online component of the unit were very similar to the unit we had studied in the Faculty of Education the year before (Stacey et al., 2004). We assumed that the unit had a relatively small number of students.

The design of the MBA units set up a structure that usually defined the capability of the teacher to facilitate an interactive online class. We found that the online large group discussion space did not usually encourage participation, nor did the content of the discussion encourage involvement.

As we ascertained, by analysing the key points from the interviews with the three lecturers, there were clear impediments to the development of vibrant online learning communities. They were:

- a large number of students in a unit
- too few staff to conduct online communication to an effective standard
- diversity in the student population
- the need to make flexible arrangements for students.

The number of MBA students (e.g., up to 250) in large off-campus units, with tutors who assessed assignments rather then facilitating discussion, made it difficult to conduct an online discussion which was of value to all participants. The number of messages that would be generated in a whole class meant that it was too difficult for a lecturer to sustain involvement in a whole class discussion. Experiences in design of online classes from the earliest days of online conferencing recommended that: "Conferences and discussion groups of about fifteen to twenty five seem work best in general" (Harasim et al., 1995) as a manageable class size for facilitating an interactive learning experience. Expansion of the numbers enrolled in the MBA and high student teacher ratios have had a negative impact on use of online discussion spaces for interactive learning in recent years, with only less populous units purposely designed for interaction enabling a teacher facilitated interactive discussion.

While numbers enrolled in the MBA had changed the nature of online communication since the early 1990s (Stacey, 1996) numbers were not the only issue. Language barriers and cultural differences had also had a part in influencing the volume and content of interactions, online, among students. Teachers reported that differences in the language capabilities of students, many of whom were overseas students, and differences in their experience at work (if they did work) were issues that also affected the quality of the learning online.

Flexibility emerged as another important issue in the establishment of online learning communities. In a course for post-graduates, most of whom are expected to be working full time, it was found difficult — in fact impossible — to prescribe participation online on a regular basis. Therefore, student–student interaction on DSO was spasmodic and took place mainly in order to form groups for collaborative assignments. That is, the online discussion was used for initial contact between people; once groups were formed, they retreated from the discussion space. The lecturers were unconcerned about the trend that had developed — i.e., online discussion 'vanishing' from DSO — as masters' students making alternative arrangements to communicate seemed, to them, an appropriate way for higher degree students to behave. Furthermore, they did not want to enforce use of DSO when there were problems associated with its use, such as unreliability and a low level of user-friendliness. Pressure from students to enable flexible arrangements, because of their varying work commitments, was a major reason for the diminished use of open online discussion, as had been characteristic in the MBA in earlier years.

Lecturers indicated that participation in online collaboration for completion of assignments seems to have worked well for some students but not for others. In any case, whether online participation had taken place or not, it did not seem to influence a student's performance in the course. When asked about the influence of online learning communities on workplace communities, they indicated that it was difficult to determine if there was any or not. Even though the MBA is designed to have practical value, whether transfer of learning happens or not is largely circumstantial, not a predictable outcome of the course.

## Conclusion

In our earlier study (Stacey et al., 2003) we had found that when students in groups of under 30 students were studying entirely at a distance, they could develop semester length communities of learning through a course design with teacher facilitation, similar to the criteria defined by Wilson et al. (2004), of strong teacher presence modelling community behaviour. In the study described here several factors impeded the development of active online communities of learning, except in the two particular units referred to previously. These factors were:

- the high teacher–student ratio (up to 1 to 250, with tutors mainly as assessors)
- the nature of the whole group online discussion which, though facilitated by the teacher, was mainly administrative in purpose, with only occasional additional cognitive content posted
- the ability of many students to meet face-to-face or use their workplace telephones or email for communication, resulting in their minimal use of online small group discussion spaces.

This meant that small group online interaction occurred mainly without monitoring by the teacher. Though this may be viewed as a more cost effective online teaching model, the financial gain was at the expense of having lost student directed learning through group work. An outcome — regrettable, some might say — of this model was that communication with teachers concentrated on problem resolution, as lecturers informed us. The process of online learning community development was inhibited in this model and it resulted in small groups, semi-autonomous in nature, adopting what might be described as a blended technological model of learning: they used phone and email communication and face-to-face meetings at residential and workplace sites. Interaction between learning communities and workplace communities of practice was rarely established and links between MBA learning and workplace application was achieved individually rather than through a community process.

The blended learning model, combining face-to-face and online interaction, is gaining precedence in the research literature as an effective model of integrated online use (Kerres & de Witt, 2003, Chen & Zimitat, 2004, Jelfs et al., 2004) and the findings of this study indicate that both students and lecturers are comfortable with move in this direction. However, for students studying completely at a distance, the teacher facilitated and monitored model should be considered if they are to gain the highest quality learning experience. Development of online learning communities — designed well, with facilitation and monitoring by teachers, and with a manageable number of students — can then result in a deeper social and cognitive learning experience for students at a distance.

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