From face-to-face to blended learning: Issues and challenges in redesigning a professional course

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Abstract: *The use of case studies is a well-established method of assisting preservice practitioners to relate theoretical concepts to their future professional practice. Using an example in Teacher Education, this paper discusses an enhancement of this approach. From an existing course, an online component was developed to enhance the engagement of preservice teachers in the community of practice of teachers. The issues associated with the development of the online component are discussed.*

Keywords: *online learning, professional education, communities of practice*

While a well-developed body of theoretical knowledge underpins all professions, there is for some practising and many preservice professionals an inherent tension between this theoretical knowledge and real world practice. Professional practitioners frequently see this theory as remote and disconnected from practice (Shulman 1998). As the effective work of the professions is grounded in theoretical principles, it is imperative that as part of their education, practitioners begin to develop a link between theory and practice. Yet theory alone is insufficient to work effectively as a professional; professional practice is the application of theoretical knowledge and associated procedural skills in resolving complex issues and solving problems. One challenge faced in a professional education course is promoting students' deep engagement with relevant theoretical concepts whilst simultaneously assisting them to relate these concepts to their professional work.

To help preservice practitioners recognise these relationships, faculties have developed programs where preservice practitioners are introduced to the relevant theoretical concepts and have opportunities to connect with their future profession. Traditionally these opportunities are clinical placements, practicum and internships. Separating practical experiences from the theoretical components of the programs can be a weakness. Since the focus of professional practice is dealing with the day-to-day demands of the workplace unless special provisions are made, many students find it difficult to relate the theoretical

concepts to the challenges of the workplace. For example in the area of teacher education, during their practicum experiences, preservice teachers are more like to focus on the daily demands such as marking students' work (Hodkinson & Hodkinson 1999) or developing the technical skills of classroom management (Field & Latta 2001).

By contrast authentic experiences such as problem–based and case-based learning have been used to help students integrate theoretical knowledge with traditions and practices of the profession more effectively (Dall'Alba & Sandberg, 1996). Authentic experiences should assist preservice practitioners to engage with some of the routines, rituals, conventions and values of their profession. Using an example in Teacher Education, this paper extends the use of case studies in professional courses by discussing issues associated with the development of an online component in a graduate teacher education course. Specifically, this paper considers theoretical and practical issues associated with modification of an existing professional education course (Ewing, 2002) so that the online component could be used to assist preservice teachers integrate theoretical and practical components of their studies.

Theoretical framework for the re-development of the course structure

Teaching, like all professions, is a form of highly complex and skilled practice dependent on the practitioners' knowledge and skills. This knowledge has been identified as *professional knowledge* (Bromme & Tillema, 1995; Shulman, 1998) or *teachers' personal practical knowledge* (Connelly and Clandinin, 1995; Black & Halliwell, 2000; Meijer, Zanting & Verloop, 2002; John, 2002). This paper uses the term professional knowledge to mean more than just the practical skills teachers need to work effectively on a daily basis but also includes the knowledge needed when these practitioners make judgements and solving problems in complex and uncertain conditions. This knowledge encompasses the theoretical principles developed through formal education interconnected with knowledge developed through their experiences in their professional work (Shulman, 1998; Black & Halliwell, 2000; Meijer et al. 2002). This professional knowledge can be conceptualised as being generated in two different settings: formal education typically at university and experiences as a member of a professional community (Shulman, 1998). Through reflection on their experiences students integrate the knowledge and skills they have developed in these two different settings.

The purpose of this course was to facilitate the development of preservice teachers' professional knowledge. From the perspective of sociocultural learning theory (Wenger, 1998), knowledge is developed and constructed within a *Community of Practice* (Lave & Wenger, 1991; Wenger, 1998). A component of this knowledge is the shared repertoire of stories, concepts, actions and discourses, which evolve through the interactions of members of the community. So while there is a relationship between the knowledge and skills taught at university and the work of teachers, differences in the work of these two communities of practice (schools and universities) mean that each community develops its own culture, values, concepts and actions (Sutherland, submitted for publication).

From the perspective of sociocultural learning theory a preservice professional moves towards full membership of the community through a series of *legitimate peripheral participation activities* (Lave & Wenger, 1991; Wenger, 1998). Engagement in these activities places preservice practitioners on an *Inward Trajectory* (Wenger, 1998) into their future community of practice. These activities should assist them to begin to develop their professional knowledge, become more familiar with knowledge structures and routines and develop some of the repertoire of language, and understanding of the knowledge and skills of the community of practice of schools (Sutherland, Scanlon & Sperring, 2005).

The online component of the course was conceived to be another mechanism to engage students in *Indirect Peripheral Participation* activities (Sutherland, submitted for publication) in the community

of practice of teachers. The activities in this component are indirect peripheral participation activities, since they provide the preservice teachers with contact with teachers and engage them in some aspects of teachers' decision-making, without directly involving them in the community of practice of schools. These activities provided the preservice teachers with ongoing contact with their future colleagues, but had minimal impact on the timing of the other units of study in the course.

Conceptualisation and organisation of the online component of the course

The online component was delivered through a customised in-house system called LearnLab and was developed to supplement the lectures and seminars in a traditional education course (see Figure 1). In this component an in-service teacher facilitated the online discussions of approximately 25 students in a seminar group. Within each seminar group, each preservice teacher was assigned to two smaller cooperative asynchronous online discussion groups, a *Reading Group* and a *Case Study Group*. It was within these groups that preservice teachers completed most of their online learning activities. The online discussions can assist in concept development (Hawkey, 2003) while the asynchronous format (online message boards) is more likely to promote a task-oriented approach than synchronous discussions (real time chat) and thus greater engagement (Im & Lee, 2004).

Component	Description	Group Size	Timing
Focus Session	Lecture	250 students	1 hr / week
Face-to-face seminar	Seminar	25 students	1.5 hrs / week
Observation visit	Visits to education settings	15-20 students	4 visits, 3 hrs / visit
Online component	Discussion in groups	25 students	1 hr / week

Figure 1: Components in the course

In the Reading Groups, preservice teachers clarified their understanding of issues in the compulsory weekly reading and summarised the main issues. When responding to the groups' postings the teachers were expected to provide examples of how the concepts and issues were significant for their professional work. These responses provided preservice teachers with opportunities to engage with the narratives of teachers and thus being able to share in the routines and practices of the community and to appreciate how teachers link theoretical knowledge with professional practice (Jonassen & Hernandez-Serrano, 2002; Sutherland et al, 2005). This opportunity transformed an academic activity (understanding a weekly reading) into an indirect peripheral participation activity. Such discussions should help build a community of learners and thinkers, making the understanding of theoretical concepts a collaborative enterprise (Scarboro, 2004).

In their Case Study Groups the preservice teachers engaged in a version of problem-based learning called case-based learning (Barrows, 1986). Each group analysed two *Case Studies* which highlighted complex issues teachers might address in their professional work. The analysis of a case study engaged preservice teachers in decision-making processes typically performed by experienced teachers. Discussions associated with this analysis should assist the preservice teachers to develop their professional knowledge by providing direct examples of how the theoretical concepts taught at university are incorporated in teachers' decision-making (Levin, 1995; Tillema, 1995; Benham, 1996; Holen, 2000).

Issues in the development of the online component of the course

In developing the online component three areas were the focus of the design team's efforts: developing the set of case studies, developing the online resource to support students' interactions and assisting students to integrate the major components in the course. Following are the main challenges faced in developing these components.

Challenge 1: development of a set of cases studies

To help preservice teachers appreciate some practical constraints of teachers' professional decision-making, case studies were based in two *virtual* schools, a primary and a secondary school. Relevant school documentation, based on an amalgam of two or three actual schools, was developed for each virtual school.

If the analysis of case studies was to be an indirect peripheral participation activity, three factors needed to be considered. First, case studies needed to be authentic (Barab, Squire & Dueber, 2000), representing realistic problems teachers might address. One characteristic of teaching is the variety of situations in which problems occur. Teachers must recognise and immediately deal with problems in a variety of different situations, often with little or no warning and sometimes with limited information. Since teachers' decision-making occurs in multiple contexts, it was important that presentation of the case studies helped preservice teachers to appreciate this variety and complexity.

In their professional work, teachers often need to gather information from a variety of sources. To represent this complexity, the case study presented information in a variety of formats including dialogues present in the profession (eg between teacher and student) and report cards. Each case study was set in one of two virtual schools and was structured to represent the physical structures, contextual factors and interactions that impact on decision-making in schools.

Similarly there was a variety in the type of product the students were required to produce from their analysis of the case study. These products were related to the situations depicted in the case studies. For example in a case study concerning a student who was experiencing problems in a school, the preservice teachers were asked to write a report outlining the issues and possible remedial actions. Thus in completing the task, the preservice teachers were engaging in the decision making of experienced members of the community of practice of schools.

The third factor was organisation (see Figure 2) of the components of each case study, the *Activity and Task*, the *Case Study resources,* the *School Context* and the *Course Resources*. A set of major principles was used to develop the activity and task so each case study became an example of a professional issue. Practical constraints associated with working in a particular school were shown in the school context, which included policy documents and procedures of the virtual school. Case study resources contained details related to the events, formal school records and the informal knowledge of teachers, such as teachers' comments about students and their family background. Course resources provided participants with direct links to the library, with a reference list organised around key issues and electronic versions of relevant government policies. Supporting tools like case study discussion groups and a concept-mapping tool were also available online.

While there was a variety in how the students might present their analysis of a particular case study, the same assessment criteria were used to judge the product. In all case studies the preservice teachers were expected to identify their assumptions, and the three most significant issues impacting on the situation. They were expected to support their analysis of the case by synthesising the relevant research and policies. Then generate a solution which could be implemented in the school context.

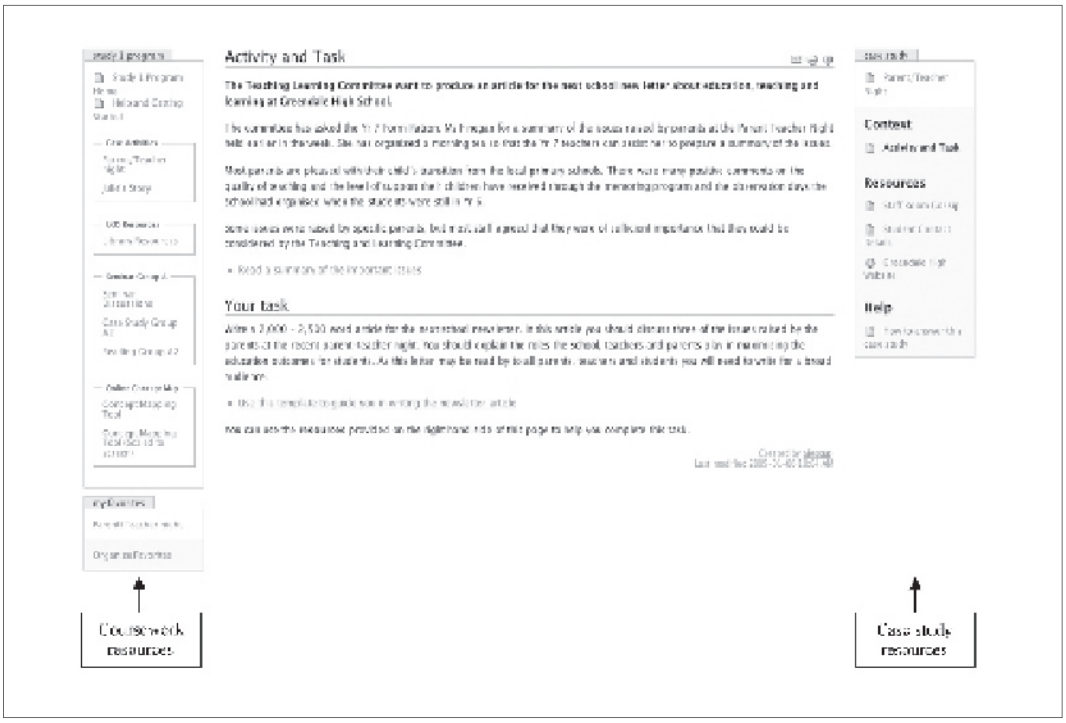

Figure 2: A typical presentation of a case study

Thus in the analysis of each case study, preservice teachers faced the issues set in the wider context of decision-making in professional practice. This should assist them to consider these issues in the wider context of the profession as well as their individual responsibilities as a member of this profession.

Challenge 2: scaffolding learning in the analysis of the case studies

While case studies were developed to assist students to understand the complexity of the professional work of teachers, instructional theory suggests this complexity may inhibit their learning. Although authentic cases should motivate preservice teachers to engage with theoretical concepts and practical issues presented in the course (Sutherland et al, 2005), varying the presentation of case studies may inhibit students' recognition of the application of these concepts. As novices, preservice teachers are unlikely to recognise major features in a case study, but are more likely to respond to surface similarities (Chi, Feltovich & Glaser, 1981). Each case study was complex enough to allow preservice teachers to analyse the case using their current knowledge, but not so simple or routine that they would simply regurgitate what they already knew (Weiss 2003).

Where they have a degree of freedom over the time they invest in learning and are required to study in a complex environment, students often encounter difficulties in four major areas: organising their time (Biggs, 1999), unfamiliar content, unfamiliar strategic procedures, and non-reflective practice (Reiser, 2004). A set of scaffolds, developed for each of these areas, was incorporated into the design of the website.

Supporting the appropriate organisation of time

Development of deep understanding of concepts only occurs when students invest effort and time (Biggs, 1999). Yet students are more likely to adopt a superficial approach if they perceive the workload

as too demanding. To address workload perception issues, a process for analysing cases along with recommended timeframes for each stage was provided.

Supporting concept development

Preservice teachers were unlikely to have heard of all the concepts they could use in case study analysis. A list of relevant publications and where possible, the articles in electronic format, were included in the coursework resource section. As discussions with their peers are likely to reveal discrepancies in individual understandings (Reiser, 2004) and maximise students' learning (Johnson & Johnson, 2004), a maximum size of five was imposed on each discussion group. Limiting numbers in the discussion group was expected to increase individual participation (Webb, 1989, 1992), and reduce the number of postings as well as the time required to read postings thus making it easier to follow threads in the discussion.

Supporting the development of appropriate strategies

Many students enrolled in this course had not experienced a case-based approach and so were unlikely to have developed strategies to learn effectively in this format. Students need support in developing the relevant strategies while they are learning new theoretical concepts. Two different strategic supports were developed to scaffold student learning. The first targeted the types of processes used to analyse a case by summarising these into a flowchart the use of which was supported by a set of reflective questions (Kourilsky & Wittrock, 1992). Secondly, preservice teachers were provided with an annotated model answer indicating the strengths and weaknesses in the response. This annotated model answer was developed to support their learning (Chi, Feltovich & Glaser, 1981; Chi & Bassok, 1989; Chi, Leeuw, Chiu, & Lavancher, 1994). With the opportunity to compare different versions to a solution, learners can start to recognise weaknesses in their own and others work, thus developing critical thinking (Macdonald, 2001).

Supporting students' reflection on their work

If preservice teachers are to transfer their knowledge and skills into their professional practice, they need to develop the metacognitive component of their knowledge (Salomon & Globerson, 1987). As learners are more likely to focus on the products than the processes they used to achieve the product (Perkins, 1998) two of the assessment tasks were developed so that the preservice teachers were asked to examine the development of their metacognitive knowledge. To assist the preservice teachers to complete these tasks, they were required to maintain a learning journal on a weekly basis by answering a set of reflective questions (Kourilsky & Wittrock, 1992). In completing these assessment tasks they reviewed their weekly postings to examine how their beliefs and experiences influence their learning and their understanding of the work of teachers (Brookfield, 1995). The processes of reflection were modelled by the seminar leaders in the face-to-face component of the unit.

Challenge 3: integrating the different components of the course

The course could easily become disjointed into a set of different activities. The design of the online resource, the two types of assessment tasks and a specific learning activity, a concept mapping activity, were all developed to minimise this problem. Twice a semester, preservice teachers were required to complete online concept-mapping activities using terms and concepts from the different components of the course. Since teachers who facilitated the online component were not involved in the assessment, the concept-mapping activity was included online rather than in the face-to-face component to provide an opportunity for these teachers to appreciate the growth in the preservice teachers' professional knowledge.

Conclusion

The education of preservice professionals is challenging because without experiences in their profession, these students often struggle to relate the theoretical concepts to their future work. While case studies and problem-based learning have helped students appreciate the relevance of these theoretical concepts, they provided limited exposure to practical demands, values and attitudes of workplaces. The development of this online component provides an opportunity to enhance the use of the case-based approach to instruction by situating learning activities in a virtual workplace where, working with a member of the profession, preservice practitioners deal with the complex issues of professional practice. This online component should provide an opportunity for preservice practitioners to engage in indirect legitimate peripheral participation activities and begin their inward trajectory into their chosen community of practice of the profession. Further research is needed to evaluate and refine this component to maximise students' learning.

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