

Online communities of practice in education

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There is a growing recognition of the importance in using online communities of practice (CoPs) as a model for teacher professional development, and in particular, to support teachers and educators in reflecting on their practice, in a collaborative and supportive learning environment. Unfortunately, while there is a wealth of literature in exploring the conceptual and theoretical issues related to CoPs, very few empirical studies have been undertaken to document how CoPs work and how they can be sustained in an educational community. The five articles included in this special issue have attempted to address some of the major issues in the design and implementation of online communities of practice, and have provided some much-needed empirical evidence to document the nature of online communication in the CoPs, and how online interactions can be analyzed.

The index of the American Educational Research Association report on research and teacher education (Cochran-Smith & Zeichner, 2006) has, strangely enough in this twenty-first century, not one single entry on information and communication technologies (ICT) and only two that refer to computers. In a few chapters we see remarks that teachers should develop ICT skills, but what these skills are and how they should or could be achieved is not really discussed. We assume (actually we, as authors of this article, editors of this special issue and naturally as teachers/researchers, hope) that this does not mean that there are no publications on the subject or that research on ICT and teacher education and teacher learning is non-existent. We think that it is more a question of two worlds separated by a chasm. On one side of this abyss is mainstream teacher education research which apparently does not really pay attention to ICT. On the other side are researchers studying ICT, who apparently pay little attention to research conducted on teacher education. This article introduces a special issue of *Technology, Pedagogy and Education* on how *communities*

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of practice can play a role in educating teachers of the future and supporting teachers of today.

First, what are communities of practice (CoPs)? This is not an easy question to answer. On the one hand a community of practice is not really a thing, but rather a process in which social learning occurs because the people who participate in this process have a common interest in some subject or problem and are willing to collaborate with others having this same interest over an extended period. The product of this process is the sharing of ideas, the finding of solutions to common problems and the building of a repository (in the participants and in the group) of available and new knowledge and expertise.

On the other hand, a CoP is a physical or virtual entity, reified in the group that is formed to carry out this process. Good examples of this are the various clubs that were formed in face-to-face settings around a common interest such as stamp collecting or *Star Wars*. Actually, the original concept as posed by Lave and Wenger (1991) was based around situated learning in a co-located setting as part of an attempt to 'rethink learning'. However, with increasing globalization and the rapid growth, development and accessibility of the Internet, CoPs are more and more considered to be something virtual. Examples of such CoPs are the many different sites that can be found on the World Wide Web relating to everything from euthanasia to childbirth and parenting, from eating disorders to specific culinary passions, and from ancient cultures to UFOs.

In other words—by combining the two—we can consider CoPs to be places where a process of social learning occurs between people with a common interest in a subject or problem who collaborate over longer periods of time to share and exchange ideas, find solutions and build knowledge. The heart of learning in a CoP is discourse and dialog to build personal, individual understanding and shared, group understanding (Kirschner *et al.*, forthcoming). Discourse and dialog enables enquiry, encourages construction of personal meaning, and shapes and confirms mutual understanding. Learners participating in such communities are allowed, or one might better say are expected and encouraged, to participate differently than more knowledgeable and usually longer participating members, a concept known as legitimate peripheral participation (Lave & Wenger, 1991). An example of this in an imaginary CoP relating to children with Attention Deficit Hyperactivity Disorder could be the father or mother who, in reply to a question or comment by an 'expert', remarks that his/her experience is different from what the 'expert' says and that the effect of a certain situation on his/her child's state is negative. This is not only seen as legitimate, but rather could even be seen as more valuable than what the 'expert' has said. Such participation 'provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artefacts, and communities of knowledge and practice. This social process, includes, indeed it subsumes, the learning of knowledgeable skills' (Lave & Wenger, 1991, p. 29). In a teacher or educational CoP this could be the remark of a student teacher that she solved the problem with an obstinate child in a certain way which was different from the way the teacher trainer had suggested based upon the theory and that it also worked! And in the case of teacher learning

about the pedagogical uses of ICT, such legitimate lateral participation would include Net-generation teachers—either newly appointed teachers or even those still in their student teacher period—contributing from their own personal knowledge bases of native use of ICT (and thus provide information to established teachers) while established teachers in the community can contribute their vast knowledge of and experience in teaching and learning praxis. Because of the equal access of both teachers/experts and students to discussion and comments made by all the participants and the fact that there is no clear distinction between students and teachers/experts (i.e. in certain circumstances the learner can know more or have more experience than the ‘expert’), management of the learning process becomes a joint activity and responsibility. In other words, a community evolves.

This issue

Recently there has been a growing recognition of the importance in using online communities of practice as a model for professional development, and in particular, to support teachers and educators in reflecting on their practice, in a collaborative and supportive learning environment. Unfortunately, while there is a wealth of literature exploring the conceptual and theoretical issues related to CoPs, very few empirical studies have been undertaken to document how CoPs work and how they can be sustained in an educational community. The five articles included in this special issue have attempted to address some of the major issues in the design and implementation of online communities of practice, and have provided some much-needed empirical evidence to document the nature of online communication in the CoPs, and how online interactions can be analyzed. There is a common theme in these five articles: they all focus on the online communication process, and they all try to understand how CoPs as a reflective tool can help improve professional practice.

How do we know when a learning community comes to life and how can it be sustained? These two important questions are addressed by Hlapanis and Dimitracopoulou’s article in this special issue. In their study, Hlapanis and Dimitracopoulou investigated the process of how the School-Teachers’ Learning Community in Greece was created and evolved. By analyzing the communication and social networking parameters, and the role of the e-moderator, this study provided some insights into the formation and development of CoPs. As well, this study developed a number of tools, including communication graphs and activity reports documenting network density and centralization, which could be useful for future research in this area.

Kelly, Gale, Wheeler and Tucker’s article investigates the role of written communication in online communities of practice. In their study, they examined specifically how online communication could encourage reflection and help develop participants’ professional identity. Six case studies, taken from an MA program in a UK university, are presented in this article to show how the asynchronous discussion environment helped the participants to reflect on and change their positions they took with regard to professional issues in their day-to-day practice. However, the authors caution the readers that while the findings of their study have provided some evidence that a

community of practice could be effective in supporting exploration of professional issues and positional change, long-term professional identity change is 'complex, unclear and subject to many influences' and thus further research is required to better understand these factors.

To support online reflection and communication, Seddon and Postlethwaite's article has developed a model to help participants at the National College for School Leadership in the UK to improve collaborative knowledge building in this community of practice. Based on the literature, as well as from the online experience of the authors, a prototype model was developed and then tested using online contributions from the participants, using a participatory action research methodology. This model has grouped online dialogs into five 'zones': sharing, comprehending, analyzing, synthesizing and transforming. Used with its accompanying questions, this model was designed to help the participating teachers to evaluate their learning behaviors in this CoP. This model is a useful tool to help understand the nature of online communication and can be used to evaluate the contributions of the participants in online learning communities.

E-portfolios have recently become a popular tool to support peer assessment and communication in pre-service education. Evans and Powell's article provides a stimulating discussion on whether ICT in general, and e-portfolios in particular, could be used to facilitate the development of communities of practice. After a substantial review of literature they question whether one can design a CoP, as well as the role of technologies in supporting the development of CoPs. Furthermore, they maintain that the present form of e-portfolios as commonly found in pre-service education programs may not be able to serve effectively as communities of practice as participants do not share knowledge publicly and learn from each other, and they do not give sufficient attention to the social aspect of communication. Evans and Powell suggest Web 2.0 technologies such as blogs, wikis, social software and podcasting may be employed to enhance communication.

Online communities of practice could also have huge potential as a mentoring tool for beginning teachers. However, very few empirical studies have been undertaken to study whether and in what ways beginning teachers participate in online communities of practice. In their article, Moore and Chae present a study conducted in the USA on how online resources, including communities of practice, were used by a group of beginning teachers to support their professional tasks and teaching practice, and meet their emotional/personal needs. The teachers interviewed in this study had previously participated in the Inquiry Learning Forum during their pre-service teacher education years and one would expect that they would continue their participation in online communities of practice once they started teaching. Unfortunately the findings of this study show that the majority of the teachers sought immediate support from colleagues that they trusted, but rarely used online communities of practice as a source of support. They also seldom shared their practice online with their peers. While the authors are optimistic that the Internet will eventually be viewed as a meaningful way to connect people, further research is needed to investigate how beginning teachers can be motivated to participate in online communities of practice.

Designing and implementing online communities of practice is a complex process. The five articles in this special issue make a valuable contribution to our understanding of how these communities could be designed and evaluated.

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