

Understanding Communities of Practice to Support Collaborative Research

José Córdoba

University of Hull, UK

Wendy Robson

University of Hull, UK

INTRODUCTION

In this article, we present an overview of the relationship between communities of practice and collaborative research. We relate this to an observation of how information technologies could be used as a tool for cultivating research communities of practice. Our aim is to explore similarities between research as an activity developed and supported by communities and the concepts that have been developed by advocates of communities of practice. We focus our attention on research in the social sciences and how it can be improved with the support of community-enabling technologies.

BACKGROUND: RESEARCH AS COLLABORATIVE ACTIVITY

There is little doubt about the transformation of research activity in the social sciences in the past few years. Traditional ways of doing research are still prominent, but changes are happening. Research processes, in which concepts and theories from single disciplines are used to inform new developments, are being replaced by more socially distributed activities where we understand that knowledge is generated by a variety of actors whose competencies and skills are needed for the delivery of final products. This means that the activities of research are developed by different people from different institutions, people who sometimes compete with each other and, at other times, collaborate for the achievement of a common objective. For example, the role of universities as knowledge generating organizations is being replaced by that of a coordinating role in which they work together with business and government orga-

nizations in addressing problems of the communities where they are based (Brulin, 2001). This does not mean that universities do not any longer engage in traditional research activities; they do. In addition, they are becoming closely linked to the regions where they are based while they are collaborating with others outside their own institutional or traditional academic boundaries to conduct research.

This emerging picture also shows that research can also be developed by geographically dispersed actors, involving researchers from different parts of the globe. Their encounters and interactions generate new sets of methodologies, concepts, and theories which are used and assessed in a particular context of application but which could also be used to address new problems in other geographical and institutional realms. The opportunities given by information technologies enable online communication between people and lead them to create, share, and exchange their knowledge to generate new possibilities, opportunities, and initiatives.

In short, we see an emerging type of research that is collaborative. It can be seen as a continuous dialogue between a variety of social actors who are concerned not only with participating in producing research outcomes, but also benefiting from them (Nowotny, Scott & Gibbons, 2003). The gathering of different stakeholders to do research also entails using and applying various sources of knowledge that have differing criteria for assessment. In this context, researchers become social activists who need to maintain and develop communication with other professionals and stakeholders (Callon, Law & Rip, 1986). They share interests and problems they face in their own disciplines, as well as needing to develop new competencies, methodologies, and tools to address societal problems.

This type of research very much resembles a new mode of research, or Mode 2 (Gibbons et al., 1994; Nowotny et al., 2003), which entails a high degree of collaboration between actors and is different from traditional or single disciplinary research (Mode 1). As pressures mount on researchers to deliver excellence, collaboration has also been seen as the medium and outcome of success. It enables the creation of appropriate conditions for the transference of knowledge and its use where it is needed (Commission of the European Communities, 2000). Despite the need for researchers to produce tangible outcomes on time, advocates of Mode 2 research also raise the importance of establishing and nurturing appropriate environments that support the continuous generation of ideas and knowledge, as well as their social production and distribution (Nowotny et al., 2003). With time, these environments could allow for the development of relations of trust between research actors, which may in turn lead them to generate further possibilities for collaboration (Department of Trade and Industry, 1990).

Therefore, research as a collaborative activity for knowledge creation requires developing continuous interactions between stakeholders. This and other issues have been addressed and explored in the theory of communities of practice (CoPs). We now turn our attention to it.

COMMUNITIES OF PRACTICE

Wenger (1998) and Wenger, McDermott, and Snyder (2002) provide the core ideas for the theory of communities of practice (CoPs). According to them, a community of practice is a group 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. Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches (Wenger et al., 2002, p. 4). Communities of practice do not emerge by the imposition of rules of interaction or formal structures on individuals. They are the result of continuous processes of learning in which individuals engage and sustain through time.

Communities of practice are a vehicle for the creation and dissemination of knowledge. When a

community of practice is acknowledged (i.e., across organizational units or organizations), it permits people to acquire skills and expertise that otherwise would be difficult to acquire because of institutional hierarchies or constraints. Individuals find in communities of practice meaning to what they do, which confers on them an identity beyond performing tasks at a particular place. People are able to learn from others who are experts in particular topics, complement their expertise, and perform better in their daily activities.

A community of practice is different from other forms of organization in which multiple individuals participate. There is a core set of interests that is maintained and developed. Moreover, there is a general concern in advancing knowledge in a particular topic, which could go beyond simply accomplishing a set of objectives. Wenger et al. (2002) provide three features that characterize a community of practice:

- **A domain:** It defines a set of issues and questions (resolved or open) about which it is worth caring. A domain embraces an understanding of what matters to people of the community and therefore guides its inquiries. It keeps members of the community together and gives them opportunities for exchanging and creating knowledge. A domain does not only include a set of specific tasks or relevant problems at a particular time. It also encompasses the reasons why knowledge of a topic is relevant.
- **A community:** The community binds together by building and sustaining relationships and generates a sense of belonging and mutual commitment. To build a community, members must interact regularly on issues important to their domain. A community requires sharing norms and values; it requires establishing and maintaining trust and open communication about different issues. It also gives a notion of “us” and “others” and of boundary between them. A sense of community helps members to deal with emerging conflicts and differences.
- **A practice:** It consists of knowledge that people share about a particular topic and creates a common foundation to support collaboration. This knowledge can be explicit and tacit. It includes tangible outcomes and supporting elements of collaboration (i.e., books, Web sites,

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