

Communities of Practice:  
A Literature Review

By Alec Couros  
For Dr. Cyril Kesten  
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## Introduction

The "knowledge society" and the "information age" have become two predominant metaphors in our age. In the 1990's, society has witnessed an emerging era of dramatic and rapid improvement in information and communication technology (ICT) accompanied by its increased affordability. These factors combined have made ICT available to an ever-increasing audience and thus, have helped to foster the ubiquity of ICT in both business and educational institutions. The introduction of the Internet and the World Wide Web (WWW) gave this massive audience unprecedented access to vast quantities of information and has enabled the formation of communities which exist unhindered by physical distance or national or political borders.

In *Powershift*, Toffler (1990) posits that modern society is going through the most significant change in human history. In a span of less than 200 years, society has moved from the agricultural age, through the industrial age to the information age. Where at one time, having the most land and agricultural machinery, or alternately, having the most advanced manufacturing process would guarantee success, we now live in a society where the mechanisms of power and success are greatly transformed. For Toffler (1990), those having success in this age, will be the individual, group, community, society or nation that has access to information and the ability to process it.

For organizations attempting to be successful in the information age, the concept of knowledge management (KM) has become useful. Briefly, the field of knowledge management is a newly emerging, interdisciplinary framework that

attempts to deal with many aspects of knowledge within organizations. These aspects may include knowledge creation, codification, sharing, and how these aforementioned activities promote organizational learning and innovation (Sumner, 1999). Although the concept of knowledge management is relatively new, there have already been two generations of KM strategies. The first generation was aimed to improve knowledge sharing within organizations (McElroy, 2000) and was focused primarily on information technology and systems. In other words, technical tools were used to collect and codify existing knowledge, and to set in place procedures where collective knowledge could be stored and retrieved (Hovland, 2003). The second generation of KM strategies focuses more on organizational processes and in the creation of new knowledge. Successful organizations are “shifting from management based on compliance to management based on self-control and self-organisation” (Hovland, 2003). With the second generation of strategies, the focus moves toward developing communities of practice (discussion and definition to follow), and in turn, studying the processes in which knowledge is produced and disseminated within these communities. In summary, knowledge management in practice utilizes technological tools and organizational routines, and is focused primarily on knowledge and community relationships.

### **Communities of Practice and Social Learning Theory**

While there are many definitions of communities of practice (CoPs), I find the definition from Hildreth & Kimble (2000) relevant and consistently useful to my particular interests. The authors define CoPs as “a group of professionals

informally bound to one another through exposure to a common class of problems, common pursuit of solutions, and thereby themselves embodying a store of knowledge” (2000, p. 3). A related definition comes from Wenger, McDermott & Snyder (2002) who define CoPs as “groups 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” (2002, p. 7). While the use of the term has become quite widespread, the term actually stems from theories based on the idea of learning as social participation (Wenger, 1998). To better understand the concept of CoPs, it’s important to have a solid understanding of social learning theory (SLT).

Initial ideas of social learning theory are attributed to the work of Bandura in the late 1970’s. Bandura (1977) emphasized the importance of observing and modelling the behaviours, attitudes and emotional reactions of others. Bandura (1977) believed that “most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action” (p. 22). Bandura constructed SLT as both a behaviourist and cognitive model as he used it to explain human action in terms of a continuous reciprocal interaction between behavioural, cognitive and environmental influences. In many ways, Bandura’s work complimented ideas from Vygotsky’s (1978) theory that social interaction plays a fundamental role in the development of cognition and Lave’s (1988) theory of situated learning.

Etienne Wenger is probably the most prominent theorist in the areas of both social learning theory and communities of practice. In *Communities of Practice: Learning, Meaning, and Identity*, Wenger (1998) posits that today's modern institutions are largely based on the assumption that "learning is an individual process, that it has a beginning and an end, that it is best separated from the rest of our activities, and that it is the result of teaching" (p. 3). Within the context of SLT, the idea of learning in this sense is displaced. Learning becomes, fundamentally, a social phenomenon and is placed in the context of our lived experience and participation in the world (p. 3). In bringing forward his ideas of social learning theory, Wenger starts with four main premises:

- 1) We are social beings. Far from being trivially true, this fact is a central aspect of learning.
- 2) Knowledge is a matter of competence with respect to valued enterprises – such as singing in tune, discovering scientific facts, fixing machines, writing poetry, being convivial, growing up as a boy or a girl, and so forth.
- 3) Knowing is a matter of participating in the pursuit of such enterprises, that is, of active engagement in the world.
- 4) Meaning – our ability to experience the world and our engagement with it as meaningful – is ultimately what learning is to produce. (Wenger, 1998, p. 4)

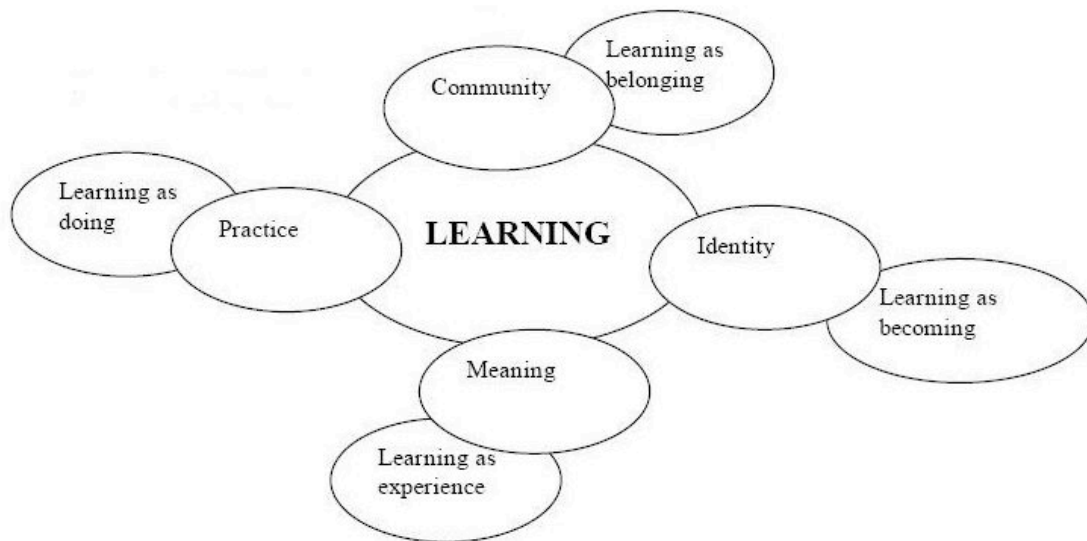
Here Wenger puts forward that learning is part of a more encompassing process which places individuals as active participants in the practices of social communities.

Wenger (1998) also presents components which he says are necessary to characterize social participation as a process of learning. These include the following:

- 1) **Meaning:** a way of talking about our (changing) ability – individually and collectively – to experience our life and the world as meaningful.
- 2) **Practice:** a way of talking about the shared historical and social resources, frameworks, and perspectives that can sustain mutual engagement in action.
- 3) **Community:** a way of talking about the social configurations in which our enterprises are defined as worth pursuing and our participation is recognizable as competence.
- 4) **Identity:** a way of talking about how learning changes who we are and creates person histories of becoming in the context of our communities. (Wenger, 1998, p.5)

These elements are deeply interconnected and mutually defining. Wenger (1998) also provides a visual representation of his model, found below. When Wenger writes of communities of practices, he intentionally positions this concept within a larger conceptual framework. The four elements described above (practice, community, identity, meaning) are important as they are interchangeable with their relationship to learning. For instance, in the figure below, you may switch any of the elements with learning, and the structure still makes sense. Learning can be central or peripheral to the process, but remains always an important component.

**Figure 1:** Components of social theory of learning: an initial inventory (from Wenger, 1998, p. 5)



According to Wenger (1998), a community of practice defines itself along three dimensions (pp. 73-85) which are related to practice itself. The first component is **mutual engagement**. Practice does not exist in the abstract, so CoP's reside around people engaged in certain common actions or ideas. This is an important factor as it means that CoP's can be formed from members of different social categories or from different geographic regions. The second component is **joint enterprise**. Wenger states the importance the joint enterprise is constantly renegotiated by the individual members. The joint enterprise goes beyond stated goals (e.g., mission statement, objectives), but creates mutual accountability among participants. The third component is a **shared repertoire**. "The repertoire of a community of practice includes routines, words, tools, ways of doing things, stories, gestures, symbols, genres, actions, or



concepts that the community has produced or adopted in the course of existence (Wenger, 1998, p. 83)

The above ideas are very much related to ideas from Brown & Duguid (1991). In this seminal study, the authors state that the creation of knowledge within communities of practice is characterized by three key elements. These include:

- 1) **Narratives:** used for diagnosing problems and representing repositories of existing knowledge.
- 2) **Collaboration:** fuelled by participants engaged in and sharing common practice
- 3) **Social constructivism:** participants develop a common understanding of their practice and of how to solve problems.

Brown & Duguid base their findings here primarily from ethnographic studies undertaken by Orr (1987a; 1987b; 1990a; 1990b). These studies are important as, according to Brown & Duguid, they help to illustrate how organizations depend upon complex relationships between groups. Such relationships (as far as organizations are concerned) do not formally exist, but may be most responsible for performance. Through these informal relationships, knowing is validated and shared, and evolves through processes by individuals who engage in the negotiation of meaning and through sharing insights and narratives (1991).

Another important idea, which relates to the notion of communities of practice and social learning theory, is what Lave & Wenger (1991) call legitimate peripheral participation (LPP). LPP is a type of situated learning, and is a process that reiterates the focus that learning is fundamentally a social process rather than solely psychological. Lave & Wenger support their theory through

observations of different apprenticeships (i.e., Yucatec midwives, Vai and Gola tailors, US Navy quartermasters, meat-cutters, non-drinking alcoholics in Alcoholics Anonymous). In these situations, people initially join communities and learn from the periphery. As they become more competent they move closer to the centre of each particular community. Thus, learning is not seen as the acquisition of knowledge by individuals so much as a process of social participation. The nature of the situation as the social context impacts significantly on the process of learning and participation in the community.

### **Cultivating Communities of Practice**

So now that we have identified the general characteristics of communities of practice, now what? Much of the latest literature regarding CoPs is focused less on describing these communities, and focused more on enabling these informal communities to emerge, to flourish and to become productive. While, it may be difficult to understand how organizations can promote something as informal and voluntary as CoPs, Wenger, McDermott & Snyder (2000) use examples as to how community structure can be encouraged. They write, “Communities, unlike teams and other structures, need to invite the interaction to make them alive. For example, a park is more appealing to use if its location provides a short cut between destinations. It invites people to sit for lunch or chat if it has benches set slightly off the main path, visible, but just out of earshot, next to something interesting like a flower bed or a patch of sunlight” (p. 7). While of course, this may seem simplistic, the example is meant to show that building

communities differs from contemporary organizational design which may traditionally focus on creating structures, systems and roles toward achieving specific organizational goals.

Wenger, McDermott & Snyder (2002) also set forth seven principles for cultivating communities of practice, and in helping these communities gain what they call “aliveness”. These principles ,with paraphrased descriptions, follow:

- 1) **Design for evolution:** As CoPs are dynamic in nature, design should reflect adaptability (or the computer lingo term, scalability). The key to this point is to combine design elements that help to catalyze community development. “Physical structures – such as roads and parks – can precipitate the development of a town. Similarly, social and organizational structures, such as a community coordinator or problem-solving meetings, can precipitate the evolution of a community.”
- 2) **Open a dialogue between inside and outside perspectives:** Wenger et. al state that good community design requires the perspective of an insider, one that is familiar with the types of activities within. However, the perspective of an outsider may help members see the possibilities within their own mechanisms, or in adopting other tools or procedures.
- 3) **Invite different levels of participation:** In any community, there exist different levels of participation. While those on the peripheral may not participate in the same ways as those in the core, the peripheral members will still gain insights and knowledge through this type of participation. All members, regardless of participation levels, should be valued.
- 4) **Develop both public and private community spaces:** Members of communities interact with each other in both public and private functions. Thus, the public and private dimension of a community are interrelated. “The key to designing community spaces is to orchestrate activities in both public and private spaces that use the strength of the individual relationships to enrich events and use events to strengthen individual relationships.
- 5) **Focus on value:** As communities are voluntary, value is key. For members and prospective members, communities must

offer value or there will may not be the incentive for participation. While value may not always be explicitly apparent, value should grow over time as the community evolves.

- 6) **Combine familiarity and excitement:** Familiarity, like the comforts of a hometown, is important for a CoP. However, excitement is also as important, but in other ways. As communities mature, they settle into familiar ways of meeting and conduct. Yet, communities also need challenge and spontaneity to provide a break from everyday occurrences.
- 7) **Creating a rhythm for the community:** Like individuals' lives having a rhythm, "vibrant" communities also have a rhythm. "At the heart of a community is a web of enduring relationships among members, but the tempo of their interactions is greatly influenced by the rhythm of community events". While all alive communities have a particular rhythm or tempo, it's important to find the "right rhythm" at each stage of a community's development.

(Wenger et al., 2002)

## **Stages of Community Development**

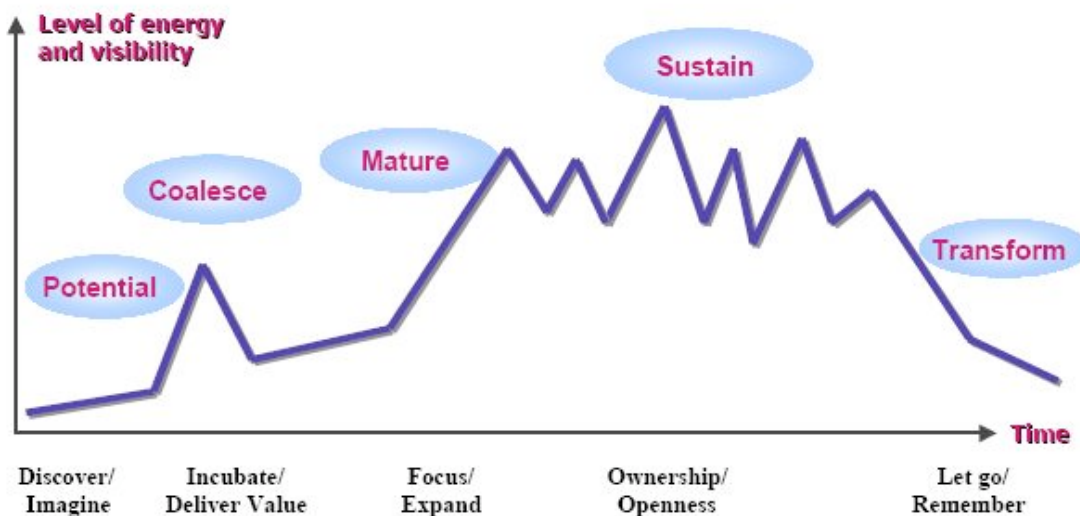
Another important premise from Wenger, McDermott & Snyder (2002), is what they refer to as the stages of community development. The authors have identified three life phases, which include 5 stages, that represent the life cycle of a community. The phases and stages are described below:

- 1) **Formation (potential and coalescing):** Here, initial networks are discovered, common ground is formed and relationships are formed. The initial call (informally) is usually centred around the generation of value.
- 2) **Integration (maturing and stewardship):** At this stage, there is a focus upon particular topics and the admission of new members. Tools and methods are developed that are unique to the community. New ideas are continually welcomed as the community evolves.

- 3) **Transformation (transformation):** At this stage, the community may fade away or officially close. This may also mean that the community has become redundant, or that this stage brings about the beginning of a new community. Other possibilities include merging with other communities or becoming institutionalized as a formal unit.

Additionally, the authors have graphed the cycle of the community in correspondence to the factors of time and energy/visibility. This is meant to be representative of an average CoP life cycle. The diagram is included below.

**Figure 2:** Community Life Cycles Related to Time and Level of Energy and Visibility (Wenger et al., 2002)



### Communities of Practice in the Online Environment

Much recent literature has been focused on the existence of online communities. In this literature review, I have established some of the current thought related to temporal communities, however, it is of my interest to also examine the current thought regarding online community development and communication. I found that much of the recent literature does not specifically

target CoP's, but also looks at virtual communities (VCs) or virtual learning communities (VCs). I believe a brief description of these types of communities is also important. But first, a noteworthy thought regarding communities comes from Brown (1999).

Community is quite possibly the most over-used word in the Net industry. True community – the ability to connect with people who have similar interests – may well be the key to the digital world, but the term has been diluted and debased to describe even the most tenuous connections, the most minimal activity. (online)

The important idea here is that it is important to understand the distinction between online communication, and online community. I believe that many of the characteristics from Wenger (1998) and Wenger et al. (2002) may help researchers to make these important distinctions.

Two important concepts related to virtual communities include virtual learning communities (VLCs) and distributed communities of practice (DCoP). A definition of a VLC is “a group of people who gather in cyberspace with the intention of pursuing learning goals

(Daniel, McCalla, & Schwier, 2002). Alternately, a DCoP refers to a group of geographically distributed individuals who are informally bound together by shared expertise and shared interests or work (Daniel et al., 2002). The table below helps to identify characteristics of such communities, as well as it helps to distinguish the concept of a VLC from that of a DCoP.

**Table 1:** Key Features of Virtual Learning Communities and Distributed Communities of Practice (Daniel, McCalla, Schwier, unpublished)

<b>Virtual Learning Communities (VLCs)</b>	<b>Distributed Communities of Practice (DCoP)</b>
<ul style="list-style-type: none"><li>- Less stable membership</li><li>- Low degree of individual awareness</li><li>- More formalized and more focused learning goals</li><li>- More diverse language</li><li>- Low shared understanding</li><li>- Strong sense of identity</li><li>- Strict distribution of responsibilities</li><li>- Easily disbanded</li><li>- Low level of trust</li><li>- Life span determined by extent in which goals or requirements are satisfied</li><li>- Pre-planned enterprise and fixed goals</li><li>- Domain specific/interests</li></ul>	<ul style="list-style-type: none"><li>- Reasonably stable membership</li><li>- High degree of individual awareness</li><li>- Informal learning goals</li><li>- Common language</li><li>- High shared understanding</li><li>- Loose sense of identity</li><li>- No formal distribution of responsibilities</li><li>- Less easily disbanded</li><li>- Reasonable level of trust</li><li>- Life span determined by the value the community provides to its members</li><li>- A joint enterprise is understood and continually renegotiated by its members</li><li>- Shared practice/profession</li></ul>

Also, building upon Lave & Wenger (1991), Daniel, McCalla & Schwier (unpublished) have developed key features of communities of practice. These relate closely to Lave & Wenger's (1991) original framework, but describe shared characteristics as they would apply in a distributed environment. Key features of DCoPs include: shared interests, common identity, shared information and knowledge, voluntary participation, autonomy in setting goals, awareness of social protocols and goals, awareness in membership and effective means of communication (Daniel, McCalla & Schwier, unpublished). Additionally, the important undertone that drives the entire community is collaboration. Collaboration allows for the active exchange of ideas, and helps to promote interest in being a part of the community.

Amy Jo Kim is an important figure when it comes to designing communities for online environments. Kim is the founder of Naima, a leading

developer of social architecture/online environments, and she has worked with various large media companies (e.g., Sony, AOL, Yahoo) in designing online community interfaces. *Community Building on the Web* (Kim, 2000) provides a simplistic, yet comprehensive guide to the construction of online communities. Many of the principles throughout this literature review, especially related to the characteristics of CoPs, are reflected here, and Kim has adapted these principles as they relate to her own practice and experience.

Kim (2000) is organized around nine basic design principles that have, thus far, characterized successful and sustainable online communities. Together, these principles are developed as “social scaffolding” and are meant to support and empower members. The principles are summarized below:

- 1) **Define and articulate your PURPOSE:** It’s important for members and prospective members to understand why the community is being built, and who it’s being built for. Be explicit through the design.
- 2) **Build flexible, extensible gather PLACES:** You should develop a small-scale infrastructure of familiar gathering places. These will co-evolve through active membership.
- 3) **Creating meaningful and evolving member PROFILES:** Profiles are important as they help to invoke communication between members, and help to give the community a sense of history and context.
- 4) **Design for a range of ROLES:** New members will have different needs than senior members. Strategies around welcoming and empowering new members are important for those in leadership roles.
- 5) **Develop a strong LEADERSHIP program:** Community leaders are integral to the process as they greet and orient members to the community. It’s important that leaders are supported in these vital activities.



- 6) **Encourage appropriate ETIQUETTE:** While conflict can be invigorating, it can also tear communities apart. Communities need to establish ground rules and conduct for communication processes.
- 7) **Promote cyclic EVENTS:** Events are important in instilling rhythm to communities, as well as providing venues for socialization. Community leaders can establish events, or encourage members to set their own.
- 8) **Integrate the RITUALS of community life:** Rituals are important in temporal communities, and may be as important in online communities. Rituals should be established around important occurrences (new members, exiting members, etc.)
- 9) **Facilitate member-run SUBGROUPS:** In large scale communities, subgroups are very important as smaller groups can help to establish member loyalty and help to distinguish your community apart from others.

Kim (2000) does provide valuable strategies for designing online communities.

Additionally, these guidelines integrate well with the previous literature in understanding distinguishing characteristics of communities of practice and virtual learning communities.

## **Conclusion**

The concept of communities of practice is an important one when attempting to understand the complex relationships found between individuals in both temporal and online environments. While this is only a small sample of the field, it is representative of the major thinkers and theories which underlie this emerging concept. From this point, it would be interesting to study specific communities of practice, both temporal and online. As well, it would be interesting to better understand the processes and tools used to bring about the

reality of what Wenger (1998) calls “aliveness”, the characteristic that makes communities “real” to its members.

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