WHAT ARE COMMUNITIES OF PRACTICE? A CRITICAL REVIEW OF FOUR SEMINAL WORKS

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Abstract

This paper is a critical review of four seminal works on communities of practice. The first three works are underpinned by a common epistemological view, but Lave and Wenger (1991) is often read as primarily about the socialisation of new-comers into knowledge by a form of apprenticeship, while the focus in Brown and Duguid (1991) is more on improvising new knowledge in a counter cultural, interstitial group. Wenger (1998) is more uncompromisingly theoretical and looks at the informal relations and understandings that develop in mutual engagement on an appropriated joint enterprise. Useful though the concept is as an ideal type, the applicability of it to much modern heavily individualised and tightly managed work may be questioned. And it is the use of the term community is a continuing cause of confusion.

The most recent work (Wenger, McDermott and Snyder 2002) marks a distinct shift towards a managerialist stance. The proposition that managers should foster informal horizontal groups across organisational boundaries is in fact a fundamental redefinition of the concept. However it does identify a plausible if limited KM tool. The paper discusses different interpretations of the idea of "coordinating" communities of practice as a management ideology of empowerment. In conclusion, the continuing value of community practice theory as identifying an important ideal type is suggested, with an example of a proposed application.

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Suggested track: "*E*" Communities of practice, knowledge networks and networking

1   **Introduction**

The purposes of this paper are twofold. Firstly, it aims to clarify the concept of community of practice by foregrounding differences between four seminal statements of the concept (Lave and Wenger 1991, Brown and Duguid 1991, Wenger 1998 and Wenger, McDermott and Snyder 2002). That Wenger's work is increasingly "performative" rather than "analytic" has been recognised (Contu and Willmott 2000, Davenport and Hall 2002), but the argument here is that confusion about the concept has been generated by the seminal works having very different central concerns, even if the epistemological underpinnings are common (cf Osterlund and Carlile 2003). The second purpose of the review is to summarise critical views of each account.

2   **Situated learning: legitimate peripheral participation (1991)**

The dominant reading of *Situated learning* (Lave and Wenger 1991) has been that it proposes moving to a new model of learning, particularly for the workplace. This should be informal through social interaction, rather than by a planned rather mechanistic process of cognitive transmission. Such an approach would result in authentic, motivated learning of what is needed to be known. Table 1 summarises some features of this new model.

Table 1 The new model of learning proposed in *Situated learning*

Old model (cognitive)	New model (constructivism, situativism)
Teaching	Learning
Classroom	In Situ
By Teaching	By observation (therefore social)
	By peripheral participation
(individualised) pupil learns from teacher	Learning from other learners (therefore social)
Planned in a curriculum	Informal, driven by the task (though elements of the apprenticeship are formal)
Learning is a mechanistic, cerebral process of transmission and absorption of ideas	Learning is as much about understanding how to behave as what to do, and is an identity change

The practices considered are coherent crafts, such as butchery or tailoring and as such are communities that are rather all-encompassing for the individual member. The book has been read as suggesting the reintroduction of apprenticeship styles of learning in the

workplace. Thus a surface reading would see a community of practice as a unified, neatly bounded group, whereas what is intended is a more subtle concept. Community of practice is never defined precisely (Lave and Wenger 1991: 42). But it is not a "primordial culture sharing entity" (98); those involved have different interests and viewpoints. It is not a sub-culture. Use of the term community does not "imply necessarily co-presence, a well-defined, identifiable group or socially visible boundaries" (98), rather it is "participation in an activity system about which participants share understandings concerning what they are doing and what that means for their lives and for their communities" (98).

As Gherardi, Nicolini and Odela (1998: 279) argue:

> Referring to a community of practice is not a way to postulate the existence of a new informal grouping or social system within the organisation, but is a way to emphasize that every practice is dependent on social processes through which it is sustained and perpetuated, and that learning takes place through the engagement in that practice.

Lave and Wenger (1991) is essentially a picture of how newcomers are socialised into a rather static practice community, through legitimate peripheral participation. It does not consider the relationship between communities as a potential driver for change, for example (Osterlund and Carlile 2003).

Situated learning has been a very influential corrective to previous educational practice, and continues to be so, accepting the limit that teaching and individual learning are recognised to have continuing validity as educational paradigms. It may be however that the pressurised setting of the modern workplace is not the most suitable environment for this approach to learning (Owen-Pugh 2002: 5).

3   Organizational learning and communities of practice … (1991)

Brown and Duguid's purpose is to show how informal groups form to improvise solutions to problems, when canonical (abstracted managerial) accounts of work break down (1991). A key aspect of the thesis is that canonical accounts of work are always inevitably flawed, inflexible, limited. The emphasis, however, is on the generation of solutions to novel problems, less the reproduction of existing knowledge. Organisations should recognise the value of this source of shop floor innovation and foster the informal networks which actually work out how to get the job done.

Although philosophically close to Lave and Wenger (as is apparent from comparing tables 1 and 2), there are marked differences of focus. Brown and Duguid are writing about improvised new practice, not the reproduction of an existing practice, their community has a counter cultural feel and it is internally egalitarian, whereas the whole point of Lave and Wenger's is that it is not. The most borrowed concept from Lave and Wenger is legitimate peripheral participation, but Brown and Duguid make little reference to it. They also stress narrative more than other accounts of communities of practice.

Table 2 The contrasting nature of canonical and non canonical knowledge

Canonical knowledge	Non canonical knowledge
Abstract	Situated
Written, logical	Oral, narrative, loosely structured
Fixed	Improvised
Imposed, deskilling	Collaborative, enabling
Individualising	Collective
Alienating	A place in which identity is made and accepted
Merely a useful resource	Right (works to fix photocopier)

All Brown and Duguid's evidence is drawn from Orr's studies of photocopier repairmen, later drawn together in *Talking about machines* (1996). In fact, Orr does not himself use the term community of practice or even cite Lave and Wenger, preferring to use the concept of occupational community (von Maanen and Barley 1984). This notion points to the power of common work situations and structures – as opposed to directly joint practices - to create commonality (imagined community), immediate mutual understanding (cf Wenger's community of practice indicator 4, Wenger 1998:125) and underpin social networks.

One interesting aspect of the Xerox case is that we know a little of the history of the corporate response to Orr's discoveries. Xerox introduced radios for "reps" to communicate with each other (but this was also a justification to make some of them redundant). The new understanding was also paralleled by the decision of a group of designers to turn away from producing an expert system to support the repairmen and

instead create (by participative design) a "knowledge sharing" tool (Bobrow and Whalen 2002). This account shows how the value generated by communities of practice may actually be successfully reified as a closely managed, technology based solution. Thus the knowledge sharing system has morphed from something called Colombos, operating over Minitel in France, to (part of) a web based corporation wide portal, called Eureka II. Significantly, neither Colombos nor Eureka is a storytelling or community building tool. Eureka is a simply structured relational database of copier fixing tips, recording problem – cause – solution[1]. Thus a local community activity has become a global system. Complex storytelling has been superseded by simple structured information sharing (with a quality control system). Stories as containers for all sorts of information such as the history of a particular machine or about "fixing the customer" have been replaced by the simple exchange of technical fixes. The identity work in the stories is "reduced" to attaching names to fixes as a reward in a reputation system. A situated storytelling community is turned into a body of apparently satisfied users of a global information sharing system, which has quantifiable levels of activity and benefits to the organisation. The Eurkea story shows that discovering informal, communal, social knowledge mechanisms does not preclude *successful* rationalisation/reification of these into formally constructed, managed systems.

4   Communities of Practice: learning, meaning and identity (1998)

The main message of *Communities of practice* (Wenger 1998) is that even in apparently routine or unskilled work there is a large amount of interaction and sense making involved in getting the job done. These relationships, division of knowledge labour (or "transactive memory" (Holingshead, Fulk and Monge 2002)) and common understandings through which people appropriate a task are a community of practice. Thus a community of practice is defined as a group that coheres through sustained mutual engagement on an indigenous enterprise, and creating a common repertoire. The tight knit nature of relations is clear from Wenger's indicators (Wenger 1998:125-6). The conception builds on a body

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[1] Though perhaps to technologists this simple genre is a sort of antenarrative (Boje 2001). It is certainly a common collaborative genre (Finholt et al 2002, Gibbs 2003, Cox and Morris 2004).

of ethnographic work by Suchman, Lave, the Institute for Research on Learning (Jordan 1996) (Davenport and Hall 2002).

What gets somewhat lost in this account is the sense in which such relationships and understandings are structured by the work itself and a management created context. As Vann and Bowker (2001) notice, communities of practice are increasingly (in KM literature) seen as a free floating "natural" set of relationships, yet such interaction is actually likely to be heavily structured by the task and formal controls. Looking at modern work there seem to be many aspects of it that would militate against the appropriation of the enterprise by a group in sustained mutual engagement. Building on suggestions by Eraut (2002) the following conditions limiting appropriation can be suggested:

1. Frequent reorganisation, so that engagement between individuals is not sustained.

2. Employment of temporary or part time staff, so that people come and go, no relationships build up and the individual does not commit to the task eg seeing consumption/leisure activities not work as the primary form of identity creation.

3. Tight management, where the organisation wishes itself to "own" the task. Unlike in the Brown and Duguid case study the formally defined account of work could be convincing, and therefore there is less room (or need) for individuals to create their own account of it. As well as management, other groups such as professions or the state may attempt to define how to do work, so limiting the scope for the task to become appropriated and defined locally.

4. Individualised work, so there is no collective engagement, only relations between an individual and their supervisor.

5. Very competitive environments, inhibiting collaboration.

6. Time pressurised environments, so there is a lack of time to develop collective understanding.

7. Spatially fragmented work, so that there may be no available common, unsupervised space (like the café used by Orr's photocopier repairmen) in which to assemble.

8. Heavily mediated activities, eg by computers, so that interaction is (arguably) less immediate and intense.

The implication is that conditions of much, perhaps most C21st work inhibit sustained collective sense making, leading to fragmented, rather individualised appropriation of tasks. Wenger's account underestimates the powerful rationalising processes in capitalism and the ability to rapidly appropriate and systematise understanding; also the influence of wider discourses to construct local sense making. This may limit the occurrence or strength of communities of practice (though it surely remains a useful ideal type). So, for example, Frenkel's study of horizontal collaborations in different organisational settings found a variety of structures, but nothing as strong or coherent as a community of practice (2003). Korczynski (2003) suggests the notion of communities of coping to describe the more limited way call centre workers offer each other emotional support; this collaboration does not seem to extend to interpretation of the task or getting the job done.

The implication that communities of practice may be quite rare makes the shift in focus in Wenger's attention away from more mundane work to "innovative" or problem solving settings more comprehensible. These are the contexts where work is more likely to be appropriated, where management is more likely to wish and need to allow it to be.

The case studies used by Brown & Duguid (/Orr) and Wenger have a counter cultural feel. Thus much of the identity work in the photocopier repairmen's storytelling is to construct a satisfying identity in the face of the management project of deskilling them. For Wenger part of the role of a community of practice is to make "work habitable"; and "a significant amount of the processors' communal energy goes into making their time at work a liveable realization of their marginality within the corporation and the insurance industry" (Wenger 1998:171). It is difficult to account for why in this case the counter culture contributes to getting the job done, surely it is just as likely to result in the subversion of work purposes (Gourlay 1999). There is no way in the theory to explain why a community of practice forms rather than "colleagues co-operating to bend the rules in order to get work done, to manage the work-effort bargain to their advantage, to play games, organize to identify and promote their own interests at work, or to engage in community sanctioned acts of sabotage" (Gourlay 1999: 9). It is at the very least paradoxical also to see how collaboration triggered by alienation can be turned into a management tool.

A particularly controversial aspect of community of practice theory has been the use of the term *community* to describe the emergent relationships around a practice. In sociology the term community has proved impossible to define clearly (eg Cohen 2002: 167). It has strongly and unqualified positive overtones, as Raymond Williams pointed out (Wenger acknowledges this fn4 p288). In fact, Wenger's conceptualisation of community is paradoxical in the history of that term. A community of practice is not necessarily friendly or harmonious (see indicator 1, Wenger 1998: 125). It has a purpose, whereas communities are usually seen as unpurposive. Connections are circumscribed by the enterprise (indicator 7), whereas community is seen as typically a total, a unity (cf Fox 2002). It is a group based on a practice not a locality (though it is one sense local and situated). It is also unexpected in being located in the workplace, often even in mundane work, a context which is generally seen as simply alienating. More obviously it is a community of people who differ, having different skills and knowledge and "mutually defining identities" (indicator 8), whereas community tends to imply sameness. It also has internal structure (periphery), whereas communities are usually thought of as unstructured; it evolves over time, is a creative force, whereas communities are generally seen as rather static. It almost becomes difficult to see why Wenger used the term at all, since he denies most of our usual assumptions about it, save to express the voluntary, informal, authentic nature of the relationships identified. Yet however paradoxical a view of community this is, it does accord well with revisions of the notion in current sociological thinking (Delanty 2003). This increasingly stresses diverse forms of sense of belonging, acknowledging that boundaries can be vague, solidarity based on ambiguous symbols, that sense of community is an accomplishment (Frankenburg 2003:xiv, Baym 2000), episodic and situtationally limited (Amit 2002), and that community can be limited not all encompassing of the individual. The residual problem, however, is that the term community does lure the reader into the trap of seeing it simply as a rather large, helpful and friendly, bounded group, however often Wenger himself warns against this.

These first three versions of community of practice theory are tied together by a shared constructivist epistemology, but it is surface differences that have taken the attention of subsequent writers. Osterlund and Carlile (2003: 2) point to the way that:

Relational thinking lies at the heart of practice theory and creates a particularly dynamic and open-ended approach with leeway for quite different formulations. Different scholars generally focus on different types of relations. Thus, a practice perspective does not necessarily translate into a unified analytical starting point

5 Cultivating Communities of Practice (2002)

Cultivating communities of practice (Wenger, McDermott and Snyder 2002) marks decisively a shift of Wenger's own writing into a different discourse, confirming trends already detected (Contu and Willmott 2000, Vann and Bowker 2001, Davenport and Hall 2002). A change of style reflects a shift of perspective. *Cultivating* is a popularisation, a simplification but also a commodification of the idea of community of practice. It now both focuses on its value as a management tool, and abandons the early example of routine office work to refocus on "innovation" and problem solving potential in large, blue chip, multinational corporations. Both changes reflect the reinvention of communities of practice as a managerialist conception. *Cultivating* has many of the typical features of the writing of would be management gurus (Collins 2003): such as recipes of action and argument by anecdote, in which we are to be persuaded not by empirical evidence but by the fact that Shell or BP are doing this or that, therefore we must. There is a sense of the compulsion to change in face of urgent environmental factors (eg globalisation), denying our ability to make choices about that change (Collins 2003, Watson 2002).

The whole community of practice concept is in fact redefined, 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 (Wenger, McDermott and Snyder 2002: 4)

So it now means fostering existing ties to create rather informal groups ignoring the formal boundaries of a large organisation, specifically to share knowledge and solve problems. This is genuinely a different concept from that proposed in *Communities of practice*, not just a change of tone or position; it is simply a different idea. Thus the prescription for management is not about making space for workers to appropriate a joint enterprise, as it was in *Communities of practice*; rather the idea is to create or foster new groupings of people who work on similar or parallel not joint enterprises (practices), effectively to invent new practices.

Keywords of the new discourse are passion, informality (=authentic, voluntary) and diversity. A classic example would be linking together technical experts spread across geographically distributed functional teams (eg Muller and Conway 2002). In many cases these look a lot like (organisation based) occupational or professional communities, though part of the management task is to promote diversity of membership and so creative insights on problems.

Not that the new concept is an unreasonable proposition or the book a failure by its own (new) standards. *Cultivating* works as an inspirational, practical handbook, just as the community of practice concept has a continuing appeal for practitioners (eg see the papers from the Virtual communities conference 2003). It is a fairly credible manual for facilitating such groups. It is reasonably convincing about the benefits of such cooperation. The idea that a large organisation should create pockets of collaboration to counteract its rationalising, formalising tendencies seems entirely sensible, and is apparently confirmed by many case studies (Lee, Parslow and Julien 2002). By doing so it gets away from cruder more monolithic conceptions of "organisational culture" (Henriksson 2000, Fox 2000).

Increasingly such communities are seen as necessarily virtual, not unreasonably if the object is to tie together disparate individuals from across a large multinational organization[2]. The issue then becomes the choice of technology (Wenger 2001), issues of scale and the balance of face to face and virtual meetings. Though there remains doubt about whether communities of practice can be distributed at all (Schwen and Hara 2003).

Conceived in this way communities of practice seem to offer a plausible solution to many classic Knowledge Management problems (Papargyris and Poulymenakou 2003) in that they are a social instrument to create, share and steward knowledge, including tacit knowledge. Community of practice is the classic conceptualisation of Knowledge Management as more than Information Management: a social not individual or

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[2] This and the potential vagueness of the term practice invites one almost to define any workplace virtual group as a community of practice, leading to the term being bleached of meaning (Ross 2003).

technological solution, about tacit not written down knowledge, seeking to wrest control of the domain from computer science. Communities of practice are also claimed to offer solutions to classic management problems such as change management, innovation, motivation and sense of belonging within the organisation. Of course, in reality the idea has limits as a strategy, eg in its inheritance of hierarchical relations from the wider organisation and society and the likelihood of it developing its own politics (Hayes and Walsham 2000), its lack of immediate, predictable or easily measurable outcomes, the difficulty of community creation. What *Cultivating* fails to do is to put communities of practice alongside other tools into a potential KM strategy.

A central theme of the book is the concept of light handed management in fostering communities, "coordination", which boils down to facilitating contacts between individuals. On the face of it this would seem to be a benign form of management ideology. There are three possible views on this. Liedtka (2000), for example, classes community of practice theory with other management fashions favouring greater empowerment, and which reflect a genuine concern to engage people in work and give them greater freedom. This might perhaps be in reaction to rising levels of education, changing attitudes to authority and a shift to team and service work. Community of practice theory, in this view, joins other empowering theories to reflect a genuine shift in workplace relations.

An alternative more critical view would point to the repeated return to questions of control and empowerment in management thought (eg Watson 2002: 252-4). Community of practice is just the latest reinvention of this theme. The constant picking at the sore reflects that this conflict in the management agenda of control is unresolvable (Collins 2003). A key proposition in *Cultivating,* for example, is that "Communities of practice create value by connecting the personal development and professional identities of practitioners to the strategy of the organisation" (Wenger, McDermott and Snyder 2002:17). The prescription for management is to foster communities that add value to organisational goals and in doing so also satisfy the needs of individual employees. Yet the notion of organisational goals is not a coherent one. Assuming that organisational goals can be neatly summarised and result in a rational plan of action to achieve them begs the key management problem. The "forbidden knowledge" (Czarniawksa 2003) is that organisations always have chaotic contested goals and pursue them only within bounded rationality. Consistently aligning individual "needs" with some notional strategy is equally problematic. Free thinking

communities of practice are likely to diverge on their own path, and become an autonomous influence in organisational politics. This realisation undercuts the possibility of a straightforward unpolitical identification of potential communities congruent with pre-existing strategy.

A third, even more pessimistic view would see informal communities as a new insidious form of control. Misztal (2002 pp.26-29) has written about the way "informalisation" has become a trend in management practice where formality is apparently relaxed, individuals are allowed to be more spontaneous and greater commitment to organisation is achieved. However, this informality could itself simply constitute a new set of rules, which can be "coercive and alienating," imposing an obligation on the individual to be cheerful and spontaneous. It is not really egalitarian as the resources of informality are more available to those further up the organisation. Covertly it allows rules which protect the individual worker to be relaxed. Informality implies less bureaucracy; it also implies more change, and more dependence on the whims of individual manager. Community of practice theory is particularly dangerous when it presents a vision of the community of practice without conflict, therefore constructs a vision of harmonious community which could become a new norm to impose on participants, oppressive in the same way the "team" can be (cf Sennett 1998). If it ignores the fact that creative relationships can involve challenge, criticism, disagreement – and the use of the term community could be used to label such relationships as anti-social – then communities of practice as an ideology of informalisation has potential dangers. In the end this may be too gloomy a view, but it is important to be aware of the ambiguity of the concept of informality (Misztal 2000), and the possibility that it hides other forms of networked control (Jones 2003). Swan et al (2002) have traced the way community is being used as a management ideology to break down professional divides, and manage in settings where little direct control is possible.

6　　Current trends

Increasingly the movement in academic and practitioner thought seems to be away from communities of practice. In a recent paper McDermott talked about redesigning organisations by fostering many types of horizontal communities, varying in terms of their strength of ties and homogeneity of membership (not formality) (McDermott 2003). Presumably different types of organisation would benefit from different forms of

community. Similarly analytic researchers are now seeing organisations as containing many different types of community (eg Ruuska and Vartianinen 2003). More fundamentally there seems to be a shift away from the word "community" with its overtones (however much Wenger argued against it originally) of bounded, mutually helpful groups. Collaboration was a big buzz word in 2002, implying the importance of strong forms of working together, but not necessarily in bounded groups. By 2003 the focus was more on *social networks* and *social capital*. Social networks are much more complex and diffuse than communities, and encompass all forms of contact and relationship. Visualisation tools are being developed for users or more likely managers to look at the "health" of their organisations (and to "identify" communities of practice) (Tyler et al 2003). Again, social capital implies the value of people knowing about or communicating with each other, but the term does not necessarily imply that they are in collaborative relationships. The shift in terminology seems to suggest that interest has been redirected from helpful or purely collaborative relations to the benefits to the organisation (or individual) of all levels and sorts of engagement including competition, conflict, disagreement or weak ties and simple awareness (Wellman 1997,2003); embracing the value of all these. Of course, in fact, though the very term community always cut against this, Wenger himself consistently argues that communities of practice should not be seen as necessarily helpful or friendly. His conception of community is of a tight knit group, but peripheral participation and his interest in brokers, peripheral trajectories and boundary work recognises weak ties.

7   A future direction

Despite the shift in the literature away from using the term community there is still life in community of practice theory. One of the problems with the theory is that it produces a complex description of an entity which is quite difficult to identify, though Wenger's own indicators have been strangely neglected. Davenport and Hall (2001) make useful suggestions about how to more tightly define the concept for analysis purposes.

Wenger (1998) is a rich statement of communities of practice as an ideal type, of how ties emerge from joint practice. The concept may be used alongside other ideal types of modes of belonging. Amit (following Herzfeld) argues, that the visceral, intense quality of imagined community requires that it be imagined immediately in experience of direct human contacts.

The emotive impact of community, the capacity of empathy and affinity, arise not just out of an imagined community, but in the dynamic interaction between that concept and the actual and limited social relations and practices through which it is realized. People care because they associate the idea of community with people they know, with whom they have shared experiences, activities, places and/or histories. In turn, they use these interpersonal relations to interpret their relationship to more extended social categories (Amit 2002: 18)

Thus, for example, we could see occupational communities as an imagined community bound together by some common, but probably peripheral practices. Thus my own research seeks to explore how virtual communities, in developing some common peripheral practices, operate to give added life to the imagined community of the occupation/profession (cf Baym 2000).

References

Amit, V. (2002): Reconceptualizing community, in Amit, V. (Ed.): *Realizing community*, London, Routlege.

Baym, N. K. (2000): *Tune in, log on: soaps, fandom, and online community*, London, Sage

Blackler, F. (1995): Knowledge, knowledge work and organizations: an overview and interpretation, *Organization studies*, 16,6, 1021-46

Bobrow, D. and Whalen, J. (2002): Community knowledge sharing in practice: the Eureka story, *Reflections*, 4,2, 47-59

Boje, D. M. (2001): *Narrative methods for organizational and communication research*, London, Sage

Brown, J. S. and Duguid, P. (1991): Organizational learning and communities of practice: toward a unified view of working, learning and innovation, in Lesser, E. L., M. A. Fontaine and J. A. Slusher (Ed.): *Knowledge and communities*, Oxford, Butterworth Heinemann.

Cohen, A. P. (2002): Epilogue, in Amit, V. (Ed.): *Realizing community*, London, Routlege.

Collins, D. (2003): *Management fads and buzzwords: critical-practical perspectives*, London, Routledge

Contu, A. and Willmott, H. (2000): Comment on Wenger and Yanox, Knowing in practice: A 'delicate flower' in the organizational learning field, *Organization*, 7,, 269-276

Cox, A. and Morris, A. (2004): Information dynamics and discourse in a distributed professional community, *37th Annual Hawaii International Conference on System Sciences*, IEEE

Czarniawska, B. (2003): Forbidden knowledge: organization theory in times of tranistion, *Management learning*, 34,3, 353-365

Davenport, E. and Hall, H. (2001): New knowledge and micro-level online organization: 'Communities of Practice' as a development framework, *34th Annual Hawaii International Conference on System Sciences*, IEEE

Davenport, E. and Hall, H. (2002): Organizational knowledge and communities of practice, *Annual review of information science and technology*, 36,, 171-227

Delanty, G. (2003): *Community*, London, Routledge

Eraut, M. (2002): Conceptual analysis and research questions: do the concepts of 'learning community' and 'community of practice' provide added value*? Annual meeting of the American Educational Research Association*, New Orleans.

Finholt, T. A., Sproull, L. and Kiesler, S. (2002): Outsiders on the inside: sharing know-how across space and time, in Hinds, P. and S. Kiesler (Eds): *Distributed work*, London, MIT press.

Fox, S. (2000): Communities of practice, Foucault and actor-network theory, *Journal of Management Studies*, 37,, 853-867

Fox, S. (2002): Networks and communities: an Actor-Network critique of ideas on community and implications for networked learning, *Networked Learning 2002*.

Frenkel, S. J., Korczynski, M., Shire, K. A. and Tam, M. (1999*): On the front line: organization of work in the information economy*, London, Cornell University Press

Gherardi, S., Nicolini, D. and Odella, F. (1998): Toward a social understanding of how people learn in organizations, *Management learning*, 29,3, 273-297

Gourlay, S. (1999*): Communities of practice: a new concept for the millennium, or the rediscovery of the wheel?*, Available at: http://ktru-main.lancs.ac.uk/pub/ol3.nsf/0/da7655c686292b288025676200449c99/$FILE/Gourlay.pdf

Hayes, N. and Walsham, G. (2000): Competing interpretations of Computer-supported cooperative work in organizational contexts, *Organization*, 7,1, 49-67

Henriksson, K. (2000): *When communities of practice came to town: on culture and contradiction in emerging theories of organizational learning*, Available at: http://www.lri.lu.se/pdf/wp/2000-3.pdf

Hollingshead, A. B., Fulk, J. and Monge, P. (2002): Fostering intranet knowledge sharing: an integration of transactive memoery and public good approaches, in Hinds, P. and S. Kiesler (Ed.): *Distributed work*, London, MIT press.

Jones, C. (2003): Networks and learning: communities, practices and the metaphor of networks. *10th International conference, Alt-C*, 8-10th September 2003, Sheffield.

Jordan, B. (1996): Ethnographic workplace studies and computer supported cooperative work, in Shapiro, D., M. Tauber and R. Traunmuller (Ed.): *The design of computer-supported cooperative work and groupware systems*, Amsterdam, Elsevier.

Korczynski, M. (2003): Communities of coping: collective emotional labour in service work, *Organization* studies, 10,1, 55-79

Lave, J. and Wenger, E. (1991): *Situated learning: legitimate peripheral participation*, Cambridge, Cambridge University Press

Lee, L. L., Parslow, R. and Julien, G. (2002*): Leading network development practices in 2002: a literature review*, Available at: http://www.actkm.com/actkm%20articles/Locklee%20-%20CoPLiteratureReviewMaster.pdf

Liedtka, J. (2000): Linking competitive advantage with communities of practice, in Lesser, E. L., M. A. Fontaine and J. A. Slusher (Ed.): *Knowledge and communities*, Oxford, Butterworth Heinemann.

McDermott, R. (2003): Global knowledge - how communities of practice steward knowledge and reshape business. *Online information 2003*, London, December 4th, Learned Information.

Misztal, B. A. (2000): *Informality: social theory and contemporary practice*, London, Routledge

Misztal, B. A. (2002): Trusting the professional: a managerial discourse for uncertain times, in Dent, M. and S. Whitehead (Ed.): *Managing professional identities: knowledge, performativity and the "new" professional*, London, Routledge.

Muller, J. M. and Carey, K. (2002): Design as a minority discipline in a software company: toward requirements for a community of practice, *CHI letters*, 1,1, 383-390

Orr, J. E. (1996): *Talking about machines: an ethnography of a modern job*, Ithaca (NY), Cornell University Press

Osterlund, C. and Carlile, P. (2003): How practice matters: a relational view of knowledge sharing. *First international conference on communities and technologies*; C&T 2003, Amsterdam.

Owen-Pugh, V. (2003) *The elite British Basketball Club as a 'community of practice': situating Lave and Wenger's model of learning within Elias' theory of the group*, Centre for Labour Market Studies, University of Leicester

Papargyris, A. and Poulymenakou, A. (2003): Evolving knowledge: an exploration of affinities between knowledge management and communities of practice. *Fourth conference on knowledge management*, Oriel College, Oxford, 18-19 September 2003.

Ross, A. (2003): What we can learn from organic online communities? how communities of practice seed themselves with conflict. *Virtual communities 2003*, London.

Ruuska, I. and Vartianinen, M. (2003): Communities and other social structures for knowledge sharing - a case study in an Internet consultancy company. *First international conference on communities and technologies*; C&T 2003, Amsterdam.

Schwen, T. M. and Hara, N. (2003): Community of practice: a metaphor for online design*?, The Information Society*, 19,, 257-270

Seale, J. (2003): In search of an enterprise of accessibility: communities, practices, boundaries and constellations. *10th International conference, Alt-C*, 8-10th September 2003, Sheffield.

Sennett, R. (1998): *The corrosion of character: the personal consequences of work in the new capitalism*, W.W.Norton, London

Swan, J., Scarborough, H. and Robertson, M. (2002): The construction of 'communities of practice' in the management of innovation, *Management learning*, 33,4, 477-496

Tyler, J., Wilkinson, D. M. and Huberman, B. A. (2003): Email as spectroscopy: automated discovery of community structure within organizations. *First international conference on communities and technologies*; C&T 2003, Amsterdam.

van Maanen, J. and Barley, S. (1984): Occupational communities: culture and control in organizations, in Staw, B. M. and L. L. Cummings (Eds): *Research in organizational behaviour*, Greenwich, CT, JAI Press.

Vann, K. and Bowker, G. C. (2001): Instrumentalizing the truth of practice, *Epistemology*, 15,3, 247-262

Virtual communities (2003): Available at: http://infonortics.com/vc/vc03/

Watson, T. (2002): *Organising and managing work*, Harlow, Pearson

Wellman, B. (1997): An electronic group is virtually a social network, in Kiesler, S. E. (Ed*.): Culture of the Internet*, Mahway, NJ, Lawrence Erlbaum.

Wellman, B., Quan-Haase, A., Boase, J., Chen, W., Hampton, K., de Diaz, I. I. and Miyata, K. (2003): The social affordances of the Internet for Networked individualism, *Journal of Computer mediated communication*, 8,3

Wenger, E. (1998): *Communities of Practice: learning, meaning and identity*, Cambridge, Cambridge University Press

Wenger, E. (2001): *Supporting communities of practice: a survey of community-oriented technologies*, Available at: http://www.ewenger.com/tech/executive_summary.html

Wenger, E., McDermott, R. and Snyder, W. M. (2002): *Cultivating Communities of Practice*, Boston, MASS, Harvard Business School Press