

## Conferences

# How virtual communities of practice and learning communities can change our vision of education

Faculty of Psychology and Educational Sciences  
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JOSÉ L. RODRÍGUEZ ILLERA

Virtual communities emerge as a result of a continuous practice from the eighties onwards, or even before, when communication technologies enabled a great number of users to interconnect and share messages in a common space. Communities such as UseNet, with millions of users, Minitel in France, WELL born in the United States (Reinghold, 1996), are well known and documented examples. Their supporting technologies preceded the development of Internet, beginning with email, then followed by notice boards and then by discussion forums, websites, up to most recent diaries or *weblogs*, *wikis*, and other more specialized technologies.

Along with this technological development, always further explored by users beyond their original designs, another strand of development emerged, more academic and based on the idea of community: a strand focusing on the social nature of learning and always thinking of it as a result of a communal or societal situation, rather than as an individual or personal matter. This strand derives from Vygotsky and followers (Cole, 1996; Leontiev, 1978) and from other no less important traditions such as J. Dewey's and G.H. Mead's North American pragmatism — for a historical overview, refer to Valsiner and van der Veer (2000). More recently, anthropological (Lave, 1988) criticism, and psychological and pedagogical as well, have been criticizing this merely cognitive/cognitivist view of learning, from a perspective that emphasizes the highly conceptualised nature of learning whatsoever. The added result of both traditions is a view (nowadays seen as of high importance) that emphasizes the social and communitarian nature of learning and the relevance of different contexts (of socialization or practice) as learning resources.

In this article and considering its limits, our aim is to analyse what's at stake in this issue, that is, the emergence of a view that ties up (virtual or face-to-face) communi-

ties, practice and learning. Our analysis will not follow a historical viewpoint, it will rather highlight its pros and cons and most of all its impact on the Education field.

## THE CONCEPT OF COMMUNITY

Community is a word in use since the middle of the 15th century and comes from the Latin words *commune* and *communis*, meaning together, in common, group of people committed to common and shared duties (Corominas, 1987). In spite of its root and assertion in some important uses such as *communism* and *communication*, its theoretical relevance, at least within the scope of this article (Todorov, 1996, for a historical-philosophical review), comes from Tönnies' classical distinction between Community and Association (1979 [1887]). Tönnies elaborates on this distinction in a context of reflecting on different forms of grouping, particularly those capable of distinguishing between pre-industrial society and society developed after the 18<sup>th</sup> century and most particularly from 19<sup>th</sup> century onwards. Community would then be a form of grouping based on proximity, on sharing experience and ways of living or living insights, feelings and experience, institutions like family, more tightly linked to rural or small sized environments; conversely, an Association would be ruled by experiential and physical distance, a type of grouping based on convenience with a time span circumscribed to shared interests.

As mentioned before, although Tönnies's distinction is embodied in the overall issue he shares with other sociologists on how to explain the shift from pre-industrial society to modern society, the way he uses duality can lead to deceit. And this is not only due to the fact that he deals with *ideal types*, that is, idealised forms that cover far more diversified and therefore nuanceable realities; besides, this is a typical feature of this sort of dualism,

which enables us to think of a much more complex reality in a schematic way. The problem is, this might lead us to think that those idealised extremes can exist as such and consequently that the so-called Community is something we can encounter as a concrete and true associative form.

Something similar occurs in Durkheim's distinction (1982 [1900]), who tries to look at social cohesion in terms of links produced among the members of a group, somewhere between mechanic solidarity and organic solidarity.

At least in the original sociological reflection, the idea of Community has two main features: on the one hand, a methodological feature (Tönnies, Durkheim) emphasizing description and structural mechanisms, and therefore its limits as well; and, on the other hand, a semantic feature, an almost nostalgic connotation with what has been lost in the shift to modernity (as Cohen, 1985; Shumar & Renninger, 2002, pointed out), that is, coherence of a life system based on more tight and interdependent forms of relation, daily proximity and great emotional commitment from all participants.

So, in Hunter's definition (2002, p. 96), a virtual community is defined as "a group of people interacting with each other and learning from others' work, while simultaneously providing knowledge and information resources to the group, in relation to themes on which there's agreement on mutual interest. One of the distinctive features of a virtual community in this sense is the fact that any person or institution is supposed to be a contributor to the group's evolving knowledgebase and not only a receptor or service consumer". Not only does this definition say nothing about virtual or non virtual characteristics of a community, but it also emphasizes participation and commitment so deeply that ends up covering only peripheral situations like the ones pointed out by Lave and Wenger (1991). In such an idealised vision, all members contribute co-responsibly.

There are other definitions also insisting on a concept of extremes. Building upon a previous definition (Barab & Duffy, 2000), Barab, MaKinster and Schekler (2004, p. 54) highlight the following features: "(1) shared knowledge, values and beliefs; (2) overlapping history among members; (3) mutual interdependence; (4) mechanisms of reproduction [...] (5) a common practice and/or mutual enterprise; (6) opportunities for interaction and participation; (7) meaningful relationships; and (8) respect for diverse perspectives and minority views".

As Shumar and Renninger (2002) clearly evidenced in their analysis of the concept of community, it can neither be said that the very idea of community is perfectly defined, nor that the mentioned sociological classifications might account for all existing nuances, nor even that the utopian idea of communities as organizational forms is very realistic. Communities, virtual or not, are always

time-limited organizations, bound together, though multileveled, both by individual interests and by their institutional and social environment. Anyway, it all depends on whether you consider a community as an entity that can be described, with recognizable features and where its structural shape is decisive, or else as an entity with mainly symbolic value, which sets the limits, and therefore is intentional, and which should be described *from inside* participants' experience. If the definition is vague (hence the relevance of the term community), it derives from the number of pertinences with which it can be examined or constructed (which is even truer if we think its existence is mainly symbolic, as stated by Cohen, 1985).

## VIRTUAL COMMUNITIES

Along with virtual communities "in general", which are built for multiple reasons (from information consumption to particular interests on a concrete topic or the use of stable communication channels), communities of practice are organizations that persist over time, though being defined mainly by practice sharing among members, rather than by a more accurate idea of community than that of occasional and conjunctural virtual communities.

Wenger (1998) showed the inter-relations occurring in communities of practice between a new perspective of learning, a new identity stemming from belonging to a community and the meaning attributed to shared practice. According to him, communities of practice have been hidden from our sight in several contexts (a sight that had ignored them until recently) although they can be considered as a key element for the understanding of the processes and mechanisms of educational influence occurring in educational non formal and informal contexts (better merely named as social), inclusively within formal institutions, which pedagogical reflection has traditionally been able to mention but without understanding the way they operate.

Contrarily to the concepts of learning that come from cognitive psychology, the approach of communities of practice bounds together several axes in an indissoluble way. Illeris (2002) unveiled analytically different dimensions and axes underlying the concept of learning and which are merged in people's everyday experience: cognitive, emotional and social features. All of them are merged in *experience*, as pointed out by Dewey (1997). At stake is a major concept guiding pragmatic and social educational theories, though hardly mentioned nowadays. Illeris's systematization places Wenger position and communities of practice in the centre of his triangle about learning as a unique balance among all dimensions.

Therefore, the theorization of communities of practice also presumes an important change in the concepts of learning. Such as so-called virtual communities of

learning are based on new but relatively widespread learning theories (for example, collaborative learning), though therefore not very well understood, communities of practice change the focus of what is meant by learning. Our purpose is not to consider one approach more important than the other, but rather understand their differences and try to place the concept of learning in a broader context: the educational institution and learners' lives above all — also beyond their time-limited belonging to an educational institution.

In some way, what's at stake in these views on communities of practice is not only learning, and much less a didactic approach envisaging learning as a mere *output* of teaching effectiveness, but rather the relationship between learning and the whole social and personal life. Envisaging community as the origin of social life and therefore as any individual's main reference framework leads to a concept of learning not as a goal in itself (which often happens in pedagogic and psychological approaches) but rather as one more feature of the whole experience<sup>1</sup>.

To know if communities — whether learning communities or communities of practice — entered a new digital era and if they can be “virtual” is no doubt a central aspect. This is indeed the form many of them assume, particularly if they are not assigned such an exhaustive number of attributes and conditions that they can do nothing but fulfil them, that is, if it is possible to see that virtuality presumes some differences linked to the specificity of new forms of mediation and agency, thus creating communities which are different from traditional communities. Some authors (Hung & Nichani, 2002) doubted to consider them as true communities, rather thinking of them as quasi-communities because of their difficulties in classifying them and their deep differences. However, to think of them as quasi-communities does not seem to lead to a particular theoretical gain, but only to a definition by contraposition or a negative definition.

However, this virtual nature (in the simple sense of non-presential and telematically mediated) is precisely what leads to the loss of some interactive components considered as very important in interactions in previous theorization of communities of practice: presence and face to face interaction include a great deal of non-verbal features that contribute to settle the meaning of a message and, in fact, the interpretation of a non-verbal channel is considered to be linked to messages' veracity. That is, in computer-mediated communication (CMC) a quite important communication channel is totally or partly lost, according to the CMC type, which in the case of virtual communities leads to the fact that they have been almost exclusively based on writing, so far. There are some important exceptions, as is the case of *Second Life* and others to come. However, the fact that they are

based on writing is noting but usual in many a culture order whereas simultaneously showing great potential, either expressively or communicationally.

Anyway, virtual communities seem to have adapted very well to such restrictions. Both communities of practice and learning communities felt the need to strengthen the symbolic value of belonging: the symbolic nature of communication has been reinforced for lack of personal links based on forms of direct communication (speech, gesture, kinesics) or, geographic proximity. The fact that communication is always in written form leads to explicitation of a community's defining boundaries. Writing and permanent recording of interactions voided an eventual double perspective one might have on observing a community, both external and internal, *emic* and *etic*, since everything in virtual communities is exteriority and lack of complexity in boundary fixing.

Simultaneously and despite difficulties posed by structural approaches, communities can also be characterized in a functional way. Though not exempt of problems, this is the approach used in most traditional and eventually most interesting classifications, since it provides more accurate distinctions than previous attempts to characterize communities on general features.

Therefore, Riel and Polin (2004) distinguish between task-based, practice-based, and knowledge-based learning communities. *Task-based learning communities* are groups of people organized around a task, working together for a specified period of time to produce a product. At stake is a specific sort of collaborative work/learning though different because of its focus on community and relevance attributed to the organizational context.

*Practice-based learning communities* correspond to the idea of communities of practice. That is, larger groups with shared goals, providing members with richly contextualized and supported arenas for learning. Learning produced can be very important and correspond to the characteristics pointed out by Wenger (1998).

Finally, *Knowledge-based learning communities* resemble the practice-based communities but are focused on producing external knowledge about the practice.

Each one is analysed according to several dimensions: belonging as a community member, task features, or features of group learning goals, participation structures, and development and reproduction devices.

As in Hakkarainen *et al.* (2004), other characterizations showed different types virtual communities also relying on functional criteria, such as the type of participation and objectives of participants. In this case, they distinguish between communities where participants aim at knowledge *acquisition*, communities where participants actively *participate* and, finally, communities where participants create new knowledge together with other participants. Although with some nuances, Hakkarainen and his colleagues follow an approach on knowledge-build-

ing communities as used by Scardamaglia, Bereiter and other authors. Tightly linked to an ICT application specially created for the purpose (at first named as CSILE and later as *Knowledge Forum*), this approach emphasizes the analysis of virtual communities in purposefully educational environments, though in the perspective of knowledge building in a collaborative and reflective way among all participants.

## IMPACTS ON PEDAGOGY

This quick review evidences this concept's difficulties both in relation to its implementation in formally educational contexts, daily life and work contexts, and because it is subjected to multiple classifications. Each of them eventually expresses some relevant feature while nuances gain sense within the viewpoint adopted. We will now try to draw some comments on some of the issues arisen both at a conceptual level and at the level of practice, highlighting their possible contribution to theorizations on education.

a) Firstly, a change in the concept of learning traditionally used in education, which is mainly psychological. Wenger's focus (1998) on a social theory of learning means a change of perspective, although he gathers several previous contributions, to which he adds new concepts and an interconnection of previously separated concepts: learning, identity, practice, meaning, community, context. A theorization of learning as an element agglutinating all the others mentioned, or even better, as an agglutinated element from social participation might be the key or one of the keys to approach what in pedagogic tradition has been called informal education. In fact, educational theories have also been better at ease when the focus is school or formal education in general, because of the difficulty in using traditional concepts (institution, objectives, subject-matter, teacher, lesson, evaluation, etc.) to analyse organisationally much looser situations if compared to the particular shape adopted by mainstream education.

Beyond its methodological features, the most important consequence of such a theory is eventually a repositioning of (traditional) learning as the ultimate educational value. Implicitly, evolutionist approaches, constructivist or not, tend to consider educational relationship as a learner's intellectual process of development and, though to a lower extent, also emotional and social, of which what is really important is to grasp the latest moment which integrates all the preceding ones. This type of criticism (Walkerline, 1984) about the teleological fundament of reasoning was particularly produced in the Piagetian case – though it should be noticed that Piaget himself has only focused on learning. However,

the learning social theory does not usually think in evolutionist terms (eventually because it is mainly focused on adults), which means learning emerges as entirely linked to the subjects' personal and social life and not only to cognitive mastery of skills and abilities supposed to be acquired. Such a repositioning presumes that learning might not be considered as the ultimate goal of practice, but rather as an element interconnecting different features which, to subject's eyes, are as important as mere improvement of performance or acquisition of certain skills.

b) Tightly linked to previous issue, interconnection between learning and the world of work. This is not the only theory that emphasizes such a relationship (Engeström, 1987; Engeström, Miettinen & Punamäki 1999; von Cranach & Harré, 1982), however contrarily to views from the theories of agency and activity which gave priority to a dense description of relationships in complex contexts of the labour world, this theory focuses on understanding how to reformulate the concept of practice by linking it to learning, identity, meaningfulness and other concepts and therefore evidencing the transforming nature of daily activity. Applications soon emerged, starting with Wenger himself and sometimes focusing on knowledge management, and soon followed by other authors, such as Saint-Oge and Wallace (2003), Hildreth and Kimble (eds., 2004).

This theoretical itinerary brought about several implications. Among them, there's a clear consequence on the approach aims: Not only describing but also transforming. Whether it is true that this change in pertinence is more of wishful thinking than reality, it is also true that it extends the boundaries of theory, since methodological issues related to the unit of analysis or detail in the description of any activity do not emerge as the foremost features, which means the approach itself is different. It could be objected that this is a step-back in relation to more detailed descriptions, but we believe this is a change in focus and pertinence: as happens in plenty of other cases, a change in pertinence about what is supposed to be explained means highlighting previously neglected features in detriment of other features so far considered as the most relevant.

c) Another important issue deals with the place occupied by educational influence. On the one hand, the explicit mechanisms teachers use to influence their pupils appear as merged in a more complex interaction with much fewer rules and hierarchies – not because they have been neglected but because they are not the only feature to be taken into account. This is probably one of the most distinguishing differences between communities of practice and learning communities: in the latter, educational influence occupies the first

place, in an explicit and purposeful way, rethought or nuanced by theoretical approaches that include peer influence, democratic consensus on learning objectives or placing learners' interests at the centre of any educational activity, though always in the context of a situated educational process and preferably within a supporting and supervising educational institution. Yet, in communities of practice influence is not so purposefully educational (though it can obviously be), as it is implicit and tacit: learning occurs through practice, no matter how hard you try to interfere on eventually implied mental mechanisms (Schank, 1995) and of course within the limits imposed by communities' dynamics.

On the other hand, the idea of security (traditionally represented by a teacher or by an educational institution) related to meaning and interpretation of experience or written conceptual representations is relativised by a double feature: the position of someone who knows more is always a position to be won through interaction and dialogue; besides, its maintenance along time is not predefined, on the contrary, it depends on commitment to the community. Wenger, McDermott and Snyder (2002), Levin and Cervantes (2002) started an analysis about the chronological evolution of communities of practice and the different positions held by members, though not target to understanding impacts on learning.

d) A different look at the role played by natural or artificial groups in personal development and learning. Of course this is not a new feature but it has probably been neglected. It was not until the advent of collaborative learning theories that groups were rethought though these groups were artificially created for learning purposes; in fact, virtual learning communities mostly belong to this category and they use the idea of collaboration as a core element to understand ongoing learning.

## POTENTIAL AND PROBLEMS

As a whole, the issue of virtual communities opens up to reflection and reconceptualization of pedagogy and in general terms to research on new social and communicational forms associated with virtuality. The truth is, not all types of virtual communities have the same *status*: the most generic ones impelled by the development of so-called social web — such as diaries or *blogs* with numbers in the order of hundreds of million, macro-communities like *MySpace* or *YouTube* (considering the word community gets any sense for them) or discussion groups around a theme of common interest — are good examples of the extent to which technological progress enhanced global communicational skills but they also

show how difficult it is to think in terms of educational intervention. No doubt there is and there will always be educational re-utilization of such technological progresses, though their value as *educational communities* is still to be equated.

At the other end there are the virtual learning communities. Educators think of them as a concrete way to profit from the social strength of communities for educational purposes, mainly from the perspective of the way collaborative forms enable us to deal with team-based tasks and learn new forms of work and inclusively of thinking. The social character of collaboration appears as having the same importance as cognitive learning, which requires an important reflection on the very objectives of communities and of education. Virtual learning communities and other forms of collaborative learning will expand more and more as implementation, both technological and pedagogical, becomes less and less complex than nowadays.

Virtual communities of practice get the most of present attentions and, as mentioned before, they correspond to a re-conceptualization of the core themes of educational theory. However, probably because of their theoretical relevance, they themselves cannot help rousing some questions. Some authors (Henri & Pudelko, 2003) think of them as an improvement to learning communities, since in communities of practice there's also place for learning production, though, as they themselves state, at stake is a sort of learning that occurs from "appropriation of new practices", as in Lave and Wenger (1991).

Another doubt, as suggested by Hung and Nichani (2002), has to do with recognizing them as true communities or as quasi-communities: as mentioned before, this opposition does not seem very useful, since it could be extended to virtual learning communities and to virtual communities in general, unless features opposed (for example, loose reciprocity of virtual communities) could lead to diversified types of activity<sup>2</sup>.

On the other hand, there are some authors who consider that virtual communities of practice constitute the most proper way to acquire true learning (Barab & Duffy, 2000), that is, learning acquired and validated within a true community and not only as simulations or problems outlined in an educational institution — which they name as *fields of practice*. Though methodological approaches based on fields of practice (cases, projects, problems, simulations -maybe inclusively many of the virtual learning communities?) cannot reach the same level of "reality" as reached by true communities of practice, the fact is we do not think they can be separated by so sharp a dividing line (Rodríguez Illera & Escofet Roig, 2006). Taking this distinction to its limit, it would

be possible to *situate* all sorts of learning in relation to a (virtual or non virtual) community, and not only because of operational or organizational problems related to curriculum, time available and rhythm required by global or total learning within a community, but because not all educational knowledge seems to require a community, other than family or school communities. Bereiter (1997) so stated in his criticism to situated learning, in relation to the abstract knowledge produced in research and University contexts, and we believe it could be extendable to communities of practice — not because new knowledge cannot be produced outside a community of practice (or community of communication, in philosophical terms), but fortunately because knowledge occurs not only in relation with it.

Finally, of course the concept analysed by Wenger does not cover all forms of interaction (for some critical positions, refer to Barton & Tusting, eds., 2005). Although there is significant progress in relation to previous views, including post-vygotskyan theories on activity, which still place individual subject in the centre of activity as its axis and root, precisely because a scheme is provided for the complexity of community interactions (and impacts in terms of learning and identity), there is still place for other sorts of analysis about forms of interaction, virtual or non-virtual and held as common activity. Nardi, Whittaker and Schwarz (2002) analyse what they name as *intentional networks*: the range of interlocutors a certain person has, his/her accumulated knowledge of personal contacts, which allows him/her to organize a common work or a team (and which therefore constitutes a part of his/her social capital), but whose actors do not necessarily know each other. Intentional networks cannot be mistaken with communities of practice, though they constitute a different way of thinking how relations operate in daily life in multiple contexts.

Something similar occurs in *knotworking* as analysed by Engeström, Engeström and Vähäaho (1999), when they describe situations of collaboration or cooperation, according to the perspective, between teams/groups formed to fulfil a task and which disaggregate immediately afterwards (for example, plane crews, certain chirurgic teams or inclusively an academic trial gathered to judge on a project or thesis); groups of people who hardly knew each other before and who meet to fulfil a task, mostly a highly specialised task, which is their only aim. Such *nodes* can neither be considered communities nor collaborative teams, but they are surely a sort of common activity of social interest. More examples could be forwarded, such as Zager (2000) *configurations*, or Scollon's analysis by *nexus of practice* (2001), or the analysis of action proposed by Strauss (1993), all of them trying to cover other elements of interaction less

central for communities of practice or learning communities, precisely to distinguish themselves from this sort of analysis.

As can be seen, the issue of communities and of virtual communities, along with other forms of analysis on shared activity in formal educational or social contexts, has just started. Pedagogical discourse and its theoretical elaboration became interested in this matter because they realised how the central concept of learning got richer and ubiquitous in a process of change that will also change the very idea of education – as seems inevitable in this digital society we are living in.

#### ENDNOTES

1. The word “experience” is used in Dewey's sense, retaken by Illeris. “Practice” is used to name both the concrete form of experience and the knowledge/activity field that supports community of practice shared goals.

2. In this case, there would be inclusively the need to evaluate the possibility of generalization of such a theoretical classification. For instance, Stone (1995) tells about the emergence of the first communities based on notice boards and forums, CommuniTree and others, describing the case of an imaginary character who used to participate very actively in one of them; when his creator decided to leave the community he couldn't do it because of the huge number of messages he got related to his character (treated as real by the other members), which inclusively lead him to forge an operation — and lots of the members of the community immediately offered all sorts of help and manifested their intention to visit him at the hospital. Relation strength not always depends on “physical” presence, as has started to be theorized in virtual education contexts.

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