

Psychosocial dynamics of blended communities: participating and positioning in learning contexts

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Abstract

Blended communities represent innovative educational contexts. By merging virtual and real interactive environments, they trigger specific learning and psychosocial processes based on a multilayered sense of belonging of the group's members.

Our research work focuses on the psychosocial dynamics of participation and identity produced by the double interactive context of blended communities.

In order to identify different participation trajectories and identity positionings of the group members, we used a qualitative version of Social Network Analysis to examine the interactions of two blended learning communities.

The results show that the combination of interactive environments generates participation strategies in which members can choose distinctive trajectories and shape their original identity positionings.

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Learning between participation and identity: a cultural perspective

Recently virtual technologies have been integrated in face to face groups, by producing blended models of communities (Ligorio & Sansone, 2009). They have originated in educational contexts with Blended Learning (BL) (Bonk & Graham, 2006; Ligorio, Cacciamani, & Cesareni, 2006), but now they are spreading to other contexts, particularly professional ones.

Studies about BL prove that the mixture of communication environments (face to face and computer mediated), learning modalities (collaborative and individual) and learning times (synchronous and asynchronous) enhances learning by improving participation (Driscoll, 2002; Graham, 2006). Particularly some studies focus on the positive effects this mixture has on the development of a connectivity sense with others (Rovai & Jordan, 2004). In fact participation in blended activities sustains a sense of belonging to the community that triggers a subsequent identity construction process (Wenger, 1998; Cucchiara, Spadaro, & Ligorio, 2008).

The interweaving of these dynamics and the rapid diffusion of the blended contexts justifies the double concern of the educational and social psychology (Ligorio, Annese, Spadaro, & Traetta, 2008), aimed at effectively designing blended activities in learning communities (Ligorio & Annese, in press).

In this double approach learning is defined as a knowledge building process (Scardamalia & Bereiter, 1994) generated by participation (Wenger, 1998). Learning is not an individual act but a social event (Gherardi, 2005; Scribner, 1984), a participation process that promotes changes, not only consisting in the acquisition of new abilities, but also in new identity experiences that continuously shape our Self (Ligorio *et al.*, 2008). This social and cultural vision of learning underlines its intersubjective nature (Matusov, 2001) and the importance of an active participation (Schneider & Evans, 2008) as an experience of meaning negotiation and identity construction; but above all it marks the relevance of the social context in which people negotiate meanings and identities.

The cultural perspective helps to rethink social contexts framing the psychological processes of learning, participation, sense of belonging and identity; it provides the theory of Communities of Practice (CoP) (Wenger, 1998). In CoP, members can progressively participate in social practices of the community, in a more and more central way so to improve their learning process and their identity project (Lave & Wenger, 1991). Their involvement in common practices accomplishes a collective learning through negotiation of meanings reified in material or cultural products.

The negotiation process is founded on three dimensions (Wenger, 1998): a *mutual engagement*, that implies the responsibility of each participant for the expected goals of the practice; a *joint enterprise*, that requires the community members perceive the same meaning in participating in the same activity; a *shared repertoire*, the collection of reified objects socially negotiated and belonging to the community's history.

Even identity is negotiated in a CoP. Firstly, each member can define "who he/she is" through his/her experience of participation; secondly, members identify themselves by distinguishing between what is familiar and what is unfamiliar; thirdly, they delineate an identity trajectory starting from one position and moving towards another; finally the positions of different memberships are coherently integrated in a unique identity.

The experience of active involvement in negotiation processes leads to a strong sense of belonging to the community, characterised by the perception of similarity with other participants (McMillan & Chavis, 1986), by the assimilation into a stable whole (Saranson, 1974) and by the engagement in an identification process, in which membership is an essential resource for constructing self-concept. As the individual goes through multiple memberships, his/her identity becomes an effective organisation of them. By participating in varied communities, individuals dialogically position and think themselves in new ways, they interiorize new self positionings according to specific situations and contexts (Davies & Harré, 1990; Harré & Van Langenhove, 1991); their re-organization of shifting positionings makes self coherent and dynamic.

The Dialogical Self Theory (Hermans, 1996; 2001) well explains this shifting nature of identity through the dynamic movement of "position-

ings” in the Self’s organisation. Each configuration of positions in the Self depends on the specific situation and moment the individual is living. Each position provides the Self with a voice capable of dialogue with others. These multiple voices draw up and oppose each other in a dialogical way, producing different I-positionings organized in a coherent identity plot.

Learning, participation, sense of belonging and identity are woven together in the negotiation processes that are the weft of both CdP and Dialogical Self.

Blending participation and positions in learning communities

Since blended communities have specific features given by the mix of two communication environments, to study them involves investigating psychosocial dimensions of educational practices. The research here presented is a first attempt of marking out these psychosocial implications.

In particular we have a twofold research aim: a) to identify and compare participation strategies of blended communities in the two different interactive settings (online and offline); b) to identify and compare identity dynamics in the double interactive context of blended communities. The two aims are interconnected as the specificity of participation should trigger peculiar identity trajectories.

Research data are composed of the interactions of two communities of students (group 1 and group 2) attending a blended course at the University of Bari (IT). Each group was made up of students attending the course in the same academic year, so the two different groups include students of two different academic years. During the course students were asked to attend offline classroom lessons and to participate in online activities hosted by the platform Synergeia (<http://bscl.gmd.de/>), designed to support collaborative learning processes.

We analyzed, for group 1, an online discussion (forum 1) and an offline discussion, represented by a focus group (focus 1). Group 2 was divided into two subgroups (A and B) because students were very numerous. We split them according to the pedagogical models of the course, particularly the Collaborative Learning model that requires small groups

(Dillenbourg, 1999). So, for group 2, we analyzed an online discussion for each subgroup (forum A and forum B), in addition to a plenary on-line discussion (forum 2) and to a plenary offline discussion represented by a focus group (focus 2).

A blended methodological device

In the investigation of online and offline environments, Social Network Analysis (SNA) (Mazzoni, 2006; Wasserman & Faust, 1994) was adopted in a qualitative way, as a blended methodological device, able to analyse both general participation dynamics and specific identity positionings of students. For both of them, two independent analyses were performed on the whole data corpus by showing a high inter-reliability rate.

The methodological tool for participation

To examine the participation strategies in the two different contexts, it was necessary to identify the message recipients of the texts in order to reconstruct the networks of social relations. By a qualitative content analysis procedure we identified them following two criteria created through the observation of data: 1) an explicit or implicit reference to a specific recipient within the text; 2) the identification of multiple recipients through some indicators: absence of reference to a specific recipient, an explicit reference to multiple recipients or to the whole community.

Each discussion was content analyzed in order to treat related outcomes by SNA. So outcomes were arranged in adjacency matrices (see table 1) in which each cell contains the number of communication links got by intersecting speakers and recipients.

Table 1. Extract of a participation adjacency matrix

	Carmen	Dora	Veronica	Giuseppe	Anna
Carmen		3	3	2	2
Dora	13		16	9	8
Veronica	5	9		5	5
Giuseppe	2	3	3		1
Anna	1	2	2		

After that, matrices of qualitative analysis results were imported in the software NetMiner 3 and treated through two indices of SNA:

a) the density index, to investigate the level of cohesion among participants in the community;

b) the degree centrality, to examine each actor's centrality and his social power - actors are in a central position when they have more links to others.

c) These two indices can represent the participation network of the whole community and, at the same time, can explain the contribution of each individual participation trajectory to the collective structure.

The methodological tool for identity

To explore identity dynamics we performed a three step-analysis: a) qualitative content analysis, b) SNA, c) analysis of identity's levels.

The first step consisted of the construction of a category grid including 15 theories (Hermans 1996; Spadaro, 2008) and data driven positionings – clustered in 5 core categories (see table 2) – and the successive identification of the links between eliciting and elicited positionings arranged in adjacency matrices.

Table 2. Core categories of positioning

Positionings	Definition	Example
Individual	emotions, ideas, interior and exterior aspects related to personal identity	"I think that..."
Collective	self descriptions as belonging to a "we" representing the entire community or one of its subgroups	"We belong to the group A"
Interpersonal	explicit reference to one or more group participants; through the use of "you" or the indirect quotation of the person	"As you said..."
Intergroup	direct or indirect references to other subgroups	"As the group A said..."
Boundary	linguistic expressions marking the member's temporary estrangement from the community	"I think that...; what do you think about it?"

The second step consisted of the use of two typical indices that give way to an innovative form of SNA, called Positioning Network Analysis, in which nodes represent identity positionings. The density index illustrates the complete repertoire of positionings of each participant and of the whole community, while the degree centrality index underlines positionings crucial for the Self as they are tied to most of other positionings.

In the third step the positioning trajectories were analysed according to three levels marking the dialogical interplay of identity: individual, interpersonal and community levels. The individual level examines the dialogue between positionings within a single individual; the interpersonal level reveals the dialogue between positionings of different social actors; the community level connects all the individual and interpersonal positionings of the community members.

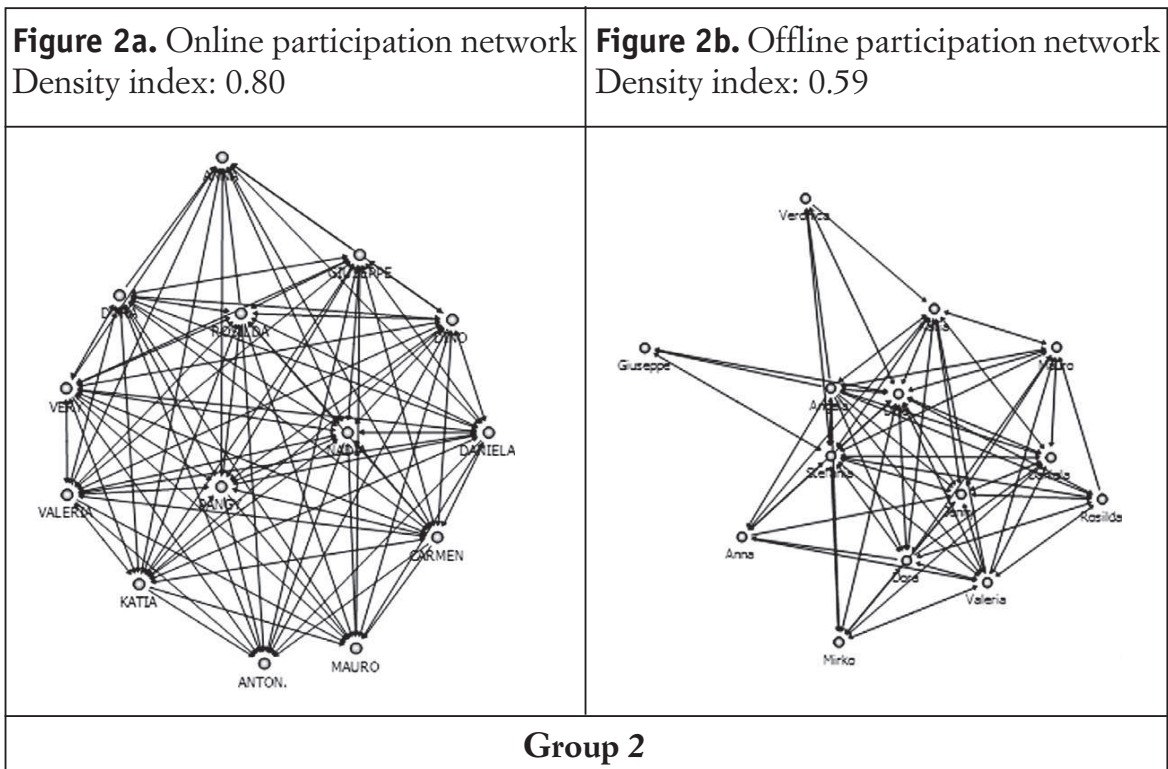
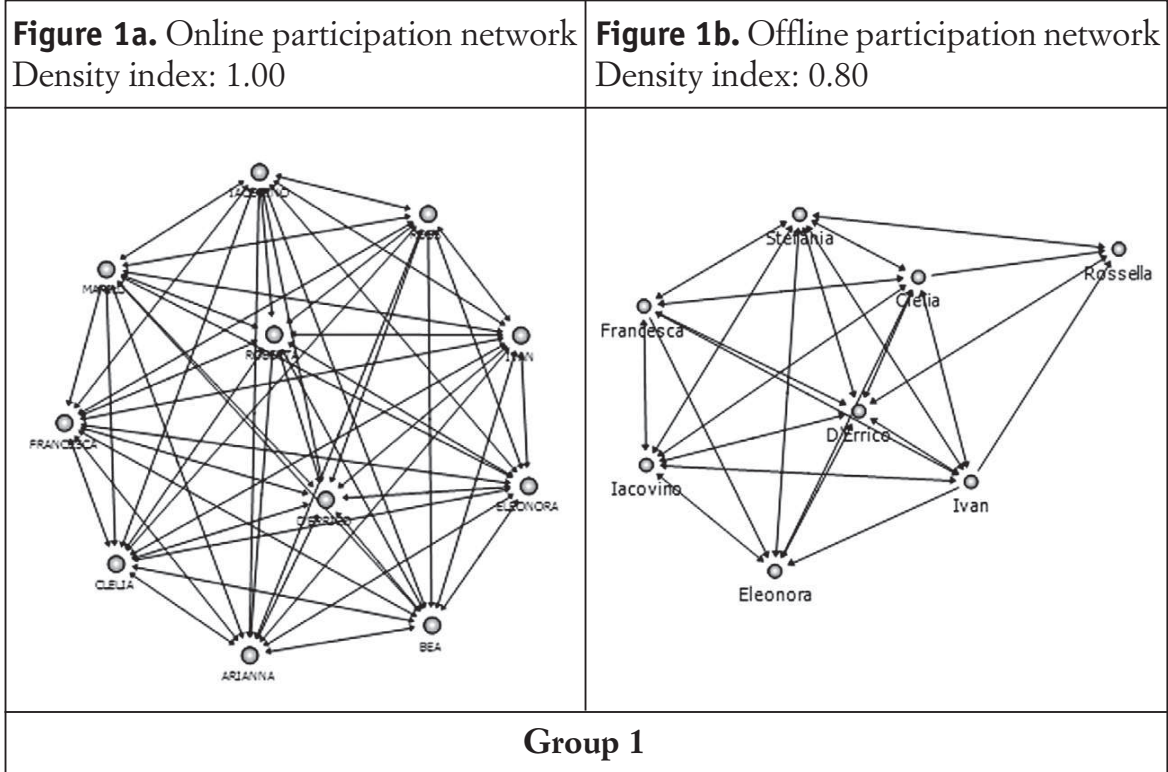
The psychosocial dimensions of blended communities

Participating

Comparing the results of the two groups' plenary discussions, we observed similar participation networks for the same interactive environment. The density index of online discussions shows higher values than those ones of offline discussions, underlining more compact and homogeneous participation strategies that build a consistent and solid community structure in online context (see Figs. 1a, 1b, 2a, 2b).

The comparison between the two interactive environments was impossible for the subgroups A and B of group 2 as they only act online. Nevertheless the comparison between the online interaction of subgroups A and B is useful to understand leadership dynamics.

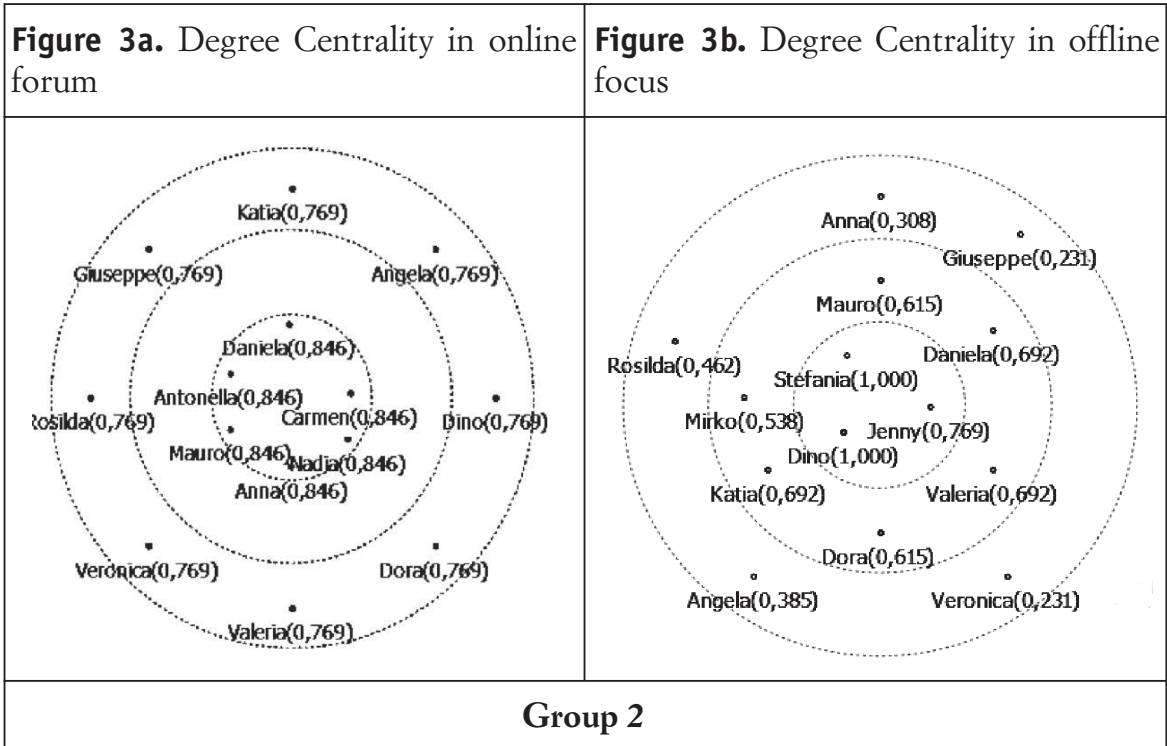
The results of the comparison between the different environments of the two groups' plenary discussions show that online context seems to allow a more egalitarian distribution of communicative resources and social power. Furthermore the peculiarities of online context, especially of asynchronous discussions, let each participant personalise his/her rhythms and ways of interaction, by marking an intersection between the communication environment and the participation strategies. Members



can take part in the discussion in different ways and at different times, by reading and re-reading the written messages when they like and so expanding the community's participation network. They can activate a personal thinking process to organise their participation in the discussion, unrestricted by the turn-taking distribution of conventional offline discussions with their rigid ways and times of participation.

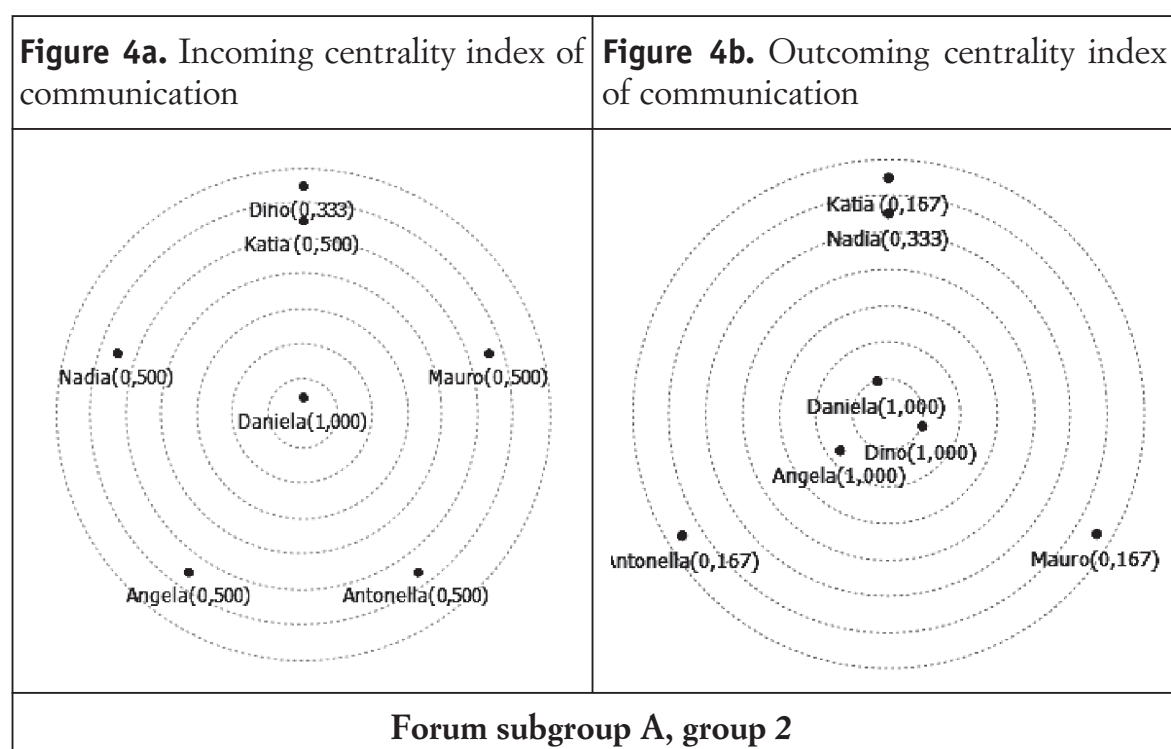
Another interesting result concerns the variety of individual participation trajectories that build the participation network. We observed different trajectories not always corresponding to a linear participation. There are participants who follow stable participation trajectories, by activating the same strategies in the two different interactive environments. For example, in Group 2, Daniela keeps the same popularity in both contexts having a high degree centrality index in both online (0.85) and offline (0.69) contexts; she is steadily a central actress (see Figs. 3a and 3b).

Other students change their participation style according to the interactive environment, generating specific trajectories. For example, students like Anna (see Figs. 3a and 3b), who are peripheral in face to face discussion (0.31), become central members in online discussion (0.85), being perfectly integrated in the community's participation network. Of



course these diverse trajectories influence the structure of the community as those students who are firmly central over the time represent a reference point for the communicative exchanges of the community.

Conversely, community structure influences individual participation strategies in fact when the community is well structured, its uniform strategies produce the absence of central or peripheral figures; on the contrary, when the community has a less compact structure, some members implement more active participation strategies than others, by becoming the functional leaders or counter-leaders of the community life. Leaders enjoy the consensus of all members and are characterized by a balanced interaction profile that combines a high centrality index for both sending and receiving communication. Counter-leaders are active participants only in sending and not in receiving messages because they only canalize the dissent without being legitimized by the community. The interactional profile of Dino gives an example of the difference between incoming (0.33) and outgoing communication (1.00) of a counter-leader (see Figs. 4a and 4b). In contrast, Daniela represents a valid example of leader having the higher centrality index (1.00) for notes posted and for receipt of communications (see Figs. 4a and 4b):



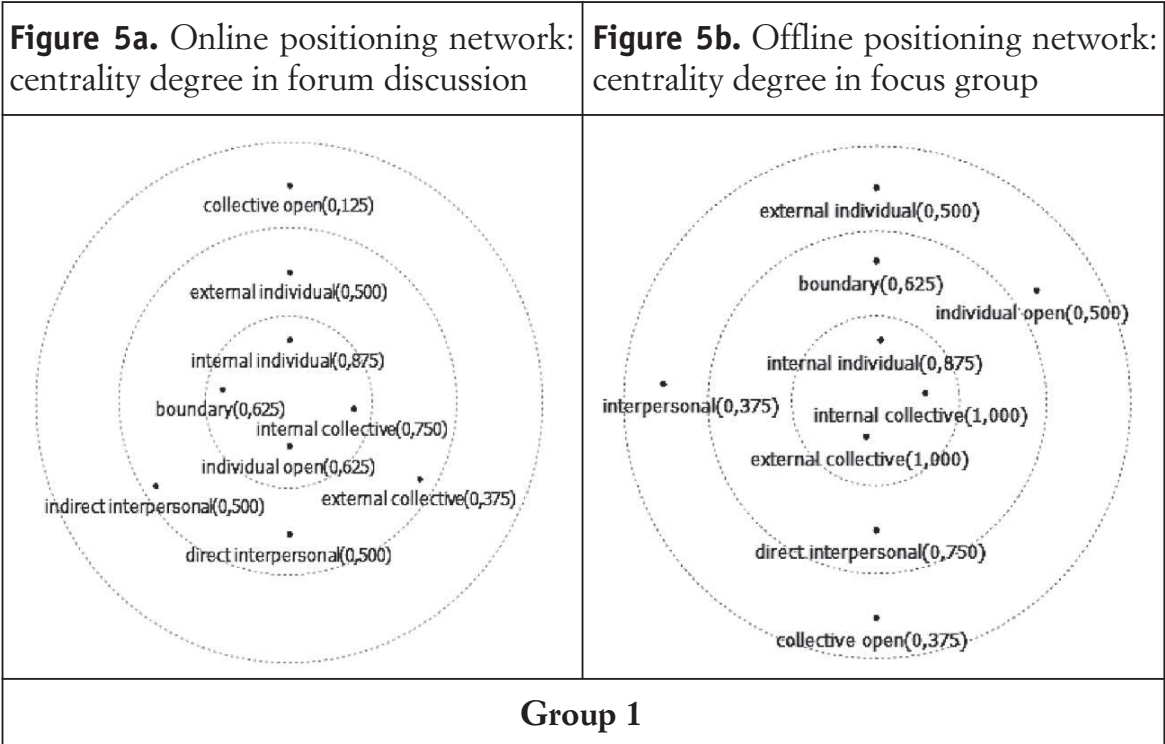
In this sense the community structure is based on a positional logic that defines the individuals in terms of social power and popularity.

Positioning

Results about identity positionings show dissimilar outcomes in the two groups, so they suggest that communication environment doesn't affect the discrimination of positionings. In fact in the group 1 the positionings' network changes according to the communication environment whereas in the group 2 there is a similar network in online and off-line context. In the first group the online network is founded on an internal individual positioning (Fig. 5a) underlining the subjective dimension, while the offline network is founded on an internal collective positioning (Fig. 5b) underlining the belonging to the community.

In the online context there are several discursive markers revealing students' private ideas or feelings through the internal individual positioning, able to emphasize the subjectivity of each single actor:

"I'm sure that in future the 'talking faces' will be a useful tool for didactic chat" (Clelia, note 24, forum 1).



In this example, Clelia contributes to the interaction by introducing her personal expectation about the discussion topic.

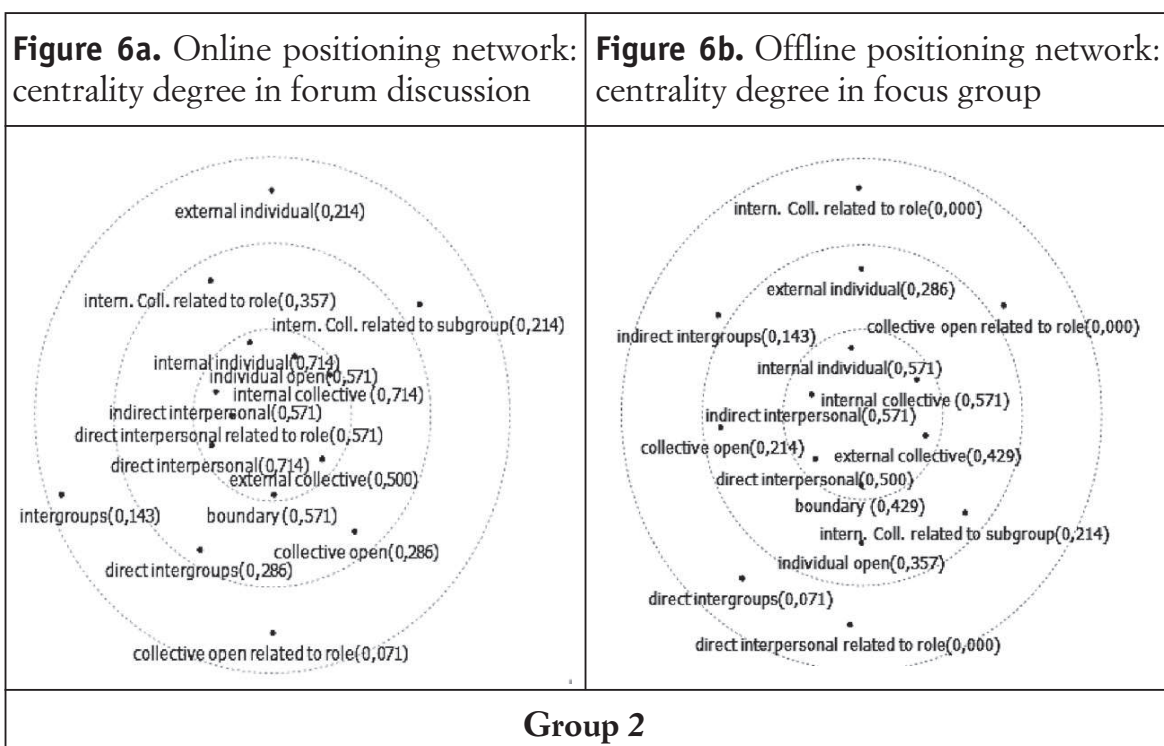
On the contrary, in the offline context, there are discursive markers underlining students' belonging to the community through the internal collective positioning. An instance of this positioning is in the inclusive pronoun choice of 'we':

"...above all the role of e-tutor... we were still trying to understand what it meant" (Clelia, conversational turn 157, focus 1).

In this example, Clelia proposes herself as a spokesperson of the community and expresses the collective difficulty in understanding how to play e-tutor's role.

In group 2, in both online and offline context, the positionings' network is based on the same internal individual positioning, but with a close connection to the social dimension of the otherness (Figs. 6a and 6b).

In online environment, the otherness is represented by the internal collective positioning and the direct interpersonal one. An instance of the direct interpersonal positioning is the peculiar use of the pronoun 'you':



"We could ask why we use the expression fictional identity. What do you think about it?" (Dora, note 23, forum 2).

This question shows the important role others play in the definition of individual identity, in fact Dora needs to receive others' feedback about her suggestion in order to substantiate her personal position.

In offline environment the otherness is represented by several positionings: internal collective positioning, indirect and direct interpersonal ones. For example, the indirect interpersonal positioning centres the individual opinion on others' contributions:

"There was a more ineffective participation, as Daniela said". (Katia, note 97, focus 2).

In this note Katia needs to indirectly mention Daniela to strengthen her judgement about the group participation in the final stage of the course.

Even in subgroups A and B of the group 2 the internal individual positioning is central for the identity network. The link with the otherness is represented by a different internal collective positioning as it represents the belonging to the subgroup rather than the reference to the whole community as it is given by the internal collective positioning of the whole group 2.

The constant reference to the other is essential for identity building: participating in and belonging to a community involve the sharing of a common space inside which one's individual positioning can be made available to the other. This intersubjective space leads to an ongoing reconstruction of the individual's social identity, as well as to the construction of a collective community identity negotiated between the individual identities of its members.

These identity dynamics are particularly observable in the inquiry of identity's levels: individual, interpersonal and community ones. In both groups, the online environment shows a predominance of the individual level looking towards the alterity; whereas the offline environment marks the prevalence of the interpersonal level looking towards the individuality. In the virtual context, the social nature of the dialogical identity emerges through 'other' voices intertwined in the web of the 'self';

in real context, the identity emphasises the dialogical interplay through an exchange of experiences at the interpersonal level. This exchange is possible within a “shared repertoire” (Wenger, 1998), a community framework marking the cultural dimension of the dialogical identity.

Learning by blending

The results about participating in blended communities show an interaction between communication environment and participation strategies. Particularly online context produces highly distinctive participation networks differing for uniformity from those created by the same participants in offline context. Generally speaking our outcomes about participation support studies on the democratic nature of Computer Mediated Communication (Sproull & Kiesler, 1991). Furthermore they support the social and cultural vision of learning (Scribner, 1984; Wenger, 1998) that maintains the relevance of the social context for negotiating meanings and identities. The different communication environments play a role in changing the group’s interaction patterns and the psychosocial dynamics of learning. Moreover technological environments, particularly asynchronous communication settings, enhance the negotiation processes. The overall effect of these processes is an intersubjective architecture of the community, that is created in the virtual context and kept in the real context, thus generating a blended community.

Differently, results about positioning in blended communities show dissimilar outcomes in the two observed groups by marking that communicative environment doesn’t play a crucial role in the discrimination of identity positionings. Dissimilar findings confirm that positioning trajectories only change according to members’ subjectivity. So members’ individuality influences the use of community’s contexts, members’ involvement in a double context allows them to personalise their way of participation and to construct positionings’ trajectories giving way both to personal and collective identities. Identity is a dialogically “blended” trajectory, developed in the close relationship between individual and community identities, online and offline environments. Each member, according to his/her subjectivity, develops a distinctive identity trajec-

ry that explains both the blending dynamics and the dissimilar findings about positioning in the two groups observed.

They construct positionings' trajectories according to the collectivity, in this building they overcome the perception of being single individuals and recognise themselves as part of a whole (Saranson, 1974). In other words the blending of individuality and collectivity is pivotal for the sense of belonging. Each member becomes "someone" and develops his/her identity inside the weave of experiences generated by the community.

In learning communities, the individual consolidates his/her sense of belonging when the community identifies a common goal (Spadaro & Ligorio, 2005). The ensuing collaboration produces a social learning process that increases a collectively built knowledge, representing both the history of the community and the reification of members' belonging sense (Wenger, 1998).

Finally, the psychosocial dynamics involved in learning trajectories implies cognitive, social and identity changes (Ligorio *et al.*, 2008). They improve cognitive functioning as they increase the distribution of cognitive processes through participants and artefacts (Hutchins, 1995). Distributed processes conceptualise blended community as a collective actor engaged in a social process of intersubjective negotiation (Matusov, 2001). This intersubjective framework amplifies the experiences of participation and subsequent self-perception, enabling a variety of positionings to the fluid identity of participants (Hermans, 2001).

These psychosocial dynamics could help educational process assessment and, above all, the design of new blended models for learning. Therefore, in our opinion, it would be worth developing research works 'blending' psychosocial and psychoeducational dimensions in order to understand how offline and online interactions may amplify their efficacy in learning communities by 'blending'.

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