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# Identity as a product of knowledge building: the role of mediated dialogue

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## Abstract

One of the most intriguing ideas proposed by socio-constructivism is to replace the concept of learning with that of knowledge building. This concept implies a strong social dimension made possible through dialogue. Many software and internet environments support and expand – both in terms of quantity and of quality – the space of dialogue. In this paper it is contended that while building knowledge the «builder», the Self is also built. Therefore the quality of dialogical practices and activities is important for understanding how the Self develops. Analysis of online practices and activities can also provide interesting hints as to the more general process through which identity is built.

**Keywords:** learning; socio-constructivism; knowledge building; school

## Introduction

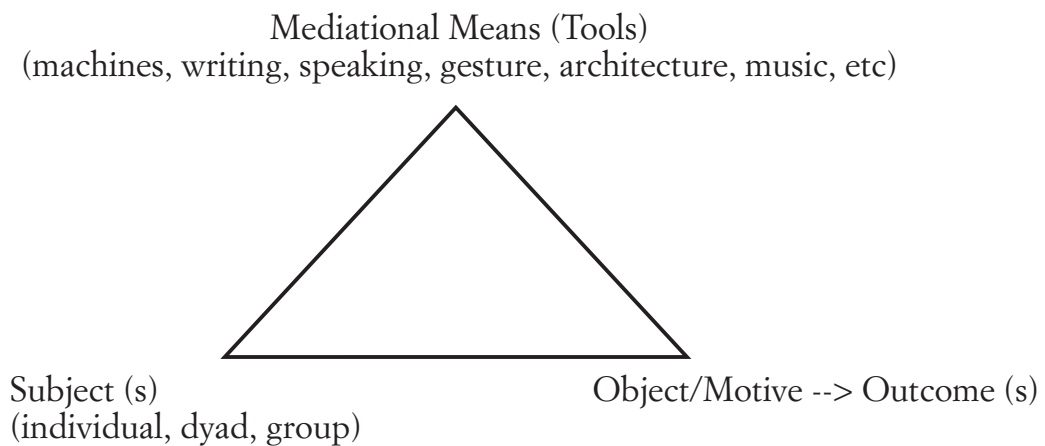
Socio-constructivism is today a widely accepted framework within educational psychology. What makes this approach so interesting is the idea

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that reality is not objectively «there», pre-defined and well-organized. Rather, reality is subjectively and collaboratively built. To be more precise, the impression is given that it does not really matter if an objective reality is «there». Even if we could conceive to some extent of a real objectivity we, as human beings, do not access it. Humans are such cultural creatures that they are unavoidably immersed in a sense making process which makes it impossible to map objective reality. Objectivity is not within our affordance. Any time we try to deal with the world around us, we find ourselves – often without acknowledging it – involved in interpretations, negotiations, building new and sometimes unexpected connections between information, drawing inferences, seeking insight, and anticipating events. This theoretical orientation was organized by Vygotsky (1978) into a model of artifact-mediated and object-oriented action, represented as the well-known mediational triangle (Fig. 1).

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**Figure 1.** The Subject-Tool-Outcome Triangle



By looking at the triangle, we see that the actions of human beings are always mediated. Being humans means – metaphorically – to be provided with «embodied glasses» (the mediational tools) that prevent us from having a direct relationship with the world. When adopted in education, this process is called knowledge building.

## Learning as Knowledge Building

The most powerful idea socio-constructivism has conveyed about education is the replacement of the concept of learning with that of knowledge building (KB). The most influential authors about this concept are Marlene Scardamalia and Carl Bereiter (2003). They describe KB as a process made possible within a community of learners (Brown & Campione, 1990); therefore KB implies a social process, whose occurrence is impossible if individuals are considered in isolation. This is a crucial point: learning should not be considered as an internal process that results in changes of beliefs, attitudes, or skills; KB is instead seen as creating or modifying public knowledge. A final outcome of a KB process is knowledge «in the world», available to be worked on and used by other people. What matters is that the current understanding of individuals within a group advances and that it goes beyond their initial knowledge level.

Scardamalia (2002) defines KB as a form of *deep constructivism* that involves making a collective inquiry into a specific topic, and coming to a deeper understanding through interactive questioning, dialogue, and the continuing improvement of ideas. Discussion, argumentation and dialogue are considered to be privileged strategies designed to sustain learning as a higher psychological function. Scardamalia is not alone in stressing the relevance of dialogical interaction in school. Discourse and argumentation strategies in schools have often been studied in order to highlight patterns of knowledge acquisition and construction (Alexander, 2004; Pontecorvo & Sterponi, 2002) as well as ways to participate and shape contexts (Hicks, 1996; Wertsch, 1991). Analyzing classroom talk is not only a way to know what students think but is also a way to shape what they think. It is also by analysing dialogical interaction that educational psychologists can observe the trajectory of participation of a learner around specific practices and contexts (Bruner, 1996; Wenger, 1998). The relevance of dialogue will be foregrounded later in this paper.

## Identity within socio-constructivism

For Vygotsky (1978) first, and cultural socio-constructivist psychologists later (Bruner, 1990; Cole, 1996), individuals are viewed as regulated by

systems of meaning available within a social context and interactive structures of social exchange. Therefore, the most relevant part of human beings is not what always remains the same and never changes; but rather individuality is on the surface and on the borders, and is what always changes as a consequence of exposure to the world, to tools and activities, to the «others» (Casati & Varzi, 1994; Markova, 2006; Resnick, Pontecorvo, & Säljö, 1997).

Recent conceptualizations about identity, based on the socio-constructivist vision, move the focus from the need for confirmation and reification of the self to the exploration of multiplicity and complexity; from the «centre» to the «periphery»; from the idea of a coherent nucleus to a colony of positioning, sometimes even conflicting and contradictory (Gergen, 1991; Hermans, 2001).

The Dialogical Self theory offers a fruitful framework to investigate the relationship between learning and identity (Ligorio, in press). Within this theory the Self is seen as a set of I-positioning constantly changing and in constant dialogue amongst themselves as well as with relevant others and objects located in the landscape of a person's mind (Bakhtin, 1981; 1986). Hermans (1996) conceptualized the Self as a perpetual and dynamic dialogue between positions speaking through different voices. These voices can be either internal (inner voices of the Self) or external (voices of the others incorporated and become indistinguishable from the inner voices). Thus connections between the various I-positioning – internal and external – have a dialogical nature and the overall quality of this dialogue determines how the Self is articulated. Here again the dialogue is at the nexus: the net of positioning is built discursively; dialogue is the glue that keeps together the various I-positioning and, at the same time, the scaffold around which the whole identity system takes shape.

## **Identity and learning**

In general people learn better, deeper and more steadily in terms of what they feel is relevant as a means to improve and advance themselves. What we learn is used as a symbolic resource to improve and change ourselves (Zittoun, 2006), to imagine and think about ourselves in new and original ways (Bruner, 1996). The school mandate is no longer to help

pupils to discover and find out who they are; as the real «Self» is hidden and only accessible in the cognitive tools school makes available. The socio-constructivist view requires school to offer pupils opportunities to develop along new trajectories which are impossible to follow without attending school. Access to resources, such as books, computers, software, interactions with experts, are viewed as venues which «construct» a new person, a person who was not there before.

Learners in formal educational contexts are constantly challenged with the idea of figuring out themselves in a future situation, where they will finally use the knowledge being built. Students are unavoidably compelled to think of themselves in new contexts, in different roles, in situations they could never be without that knowledge. This implies not only a focus on what they do with knowledge but also on who they will be. Therefore during the knowledge building process it is not only knowledge that is constructed; rather, also the «builder» is constructed.

In my opinion this is one of the most challenging, and yet fascinating, changes introduced by socio-constructivism: learning as a process through which the learner's identity is built alongside knowledge. The KB process cannot be strictly confined to knowledge. While defining and redefining concepts, negotiating meanings and advancing ideas we also do something more. We build parts of who we are, who we feel ourselves to be, and who we can be. KB should be re-conceptualized as also including the process of building the Self, and therefore the dialogical dimension concerning educational contexts should also be combined with the «voices» and dialogue around I-positioning. Dialogue pertaining to the KB process now also includes dialogue about building the Self.

## **The role of mediated dialogue**

One of the distinctive features of KB is a sense of a collective knowledge, built by «we» and not by «I». The sense of a real group is not easy to reach; it is not enough to put together various individuals in order to obtain an organism operating as a collectivity, with common goals, shared views, mutual commitment, and positive interdependency. There is software able to support such aims; able to help users focus on understand-



ing rather than on just accomplishing tasks, on collaboration rather than on controversy.

Virtual spaces and software supporting communication at a distance play a crucial role in extending the «space of learning» (Koschmann, 1999; Wegerif, 2007) and, consequently, they provide new ways of talking about themselves and new patterns for group activities. E-mails, chats, blogs, virtual environments, web-forums, wiki, Facebook, all support specific and peculiar narratives, ways of talking and constructing knowledge and Self. This assumption has been exploited in a set of research projects conducted using the Dialogical Self theory to analyse the impact of mediated dialogue in different virtual environments (Hermans, 2004; Talamo & Ligorio, 2001). It was found that apparatus such as nicknames, avatars, emoticons become new dialogical and symbolic additional resources.

As a result of the potentialities of dialogue occurring through technology, I propose a substitution of the traditional label of «computer mediated communication» (CMC) with «computer mediated dialogue» (CMD). The first denomination has a long consolidated tradition with many publications, conferences and journals specifically devoted to the study of how communication occurs when mediated by any type of media (computers, TV, radio). CMC refers in general to the capability of tools to support communication between users at a distance, regardless of the affordance these tools may have in terms of supporting a constructive dialogue. For instance, e-mail perfectly mediates communication but hardly supports the clear development of the functions covered by the dialogue within a KB process. Instead, in CMD environments – for instance web-forums – threading the discussion reveals at first sight its length and enables the visualization of starting inputs and responses. Furthermore, contributions can often be categorized and such categorization easily gives an overview of the type of dialogue occurring. Finally, CMD affords a disclosure not easily occurring via CMC.

In other words, by replacing communication with dialogue the focus is on understanding how people talk through technology and about technology. From this point of view, technology enhancing dialogue may attain the same symbolic value recognized in other narrative and dialogical tools, such as books and movies. CMD, in fact, shares many peculiarities



with more traditional dialogical means. In both cases the outcome is a narrative through which people talk by evoking and strategically using many elements. For instance, other people may be brought into the scenario built during the dialogue. Often speakers engage in discourse with people not synchronically present. This happens by quoting them, by recalling events, by figuring out what they may think, by imagining how they would interpret what we say or do, by anticipating their reactions. In this way, the dialogical dimension crosses time and space. Thinking about space, time and people, imaginary or real, is a constructive act. Such construction is supported by materials like novels, films and television programs, triggering the cultural canalization of human subjectivities (Diriwächter, Valsiner, & Sauck, 2005). CMD, by enlarging the space of debate, multiplies the number and the quality of «voices» that may come into contact, allowing a multiple and blended medium at one and the same time, and empowering and extending the cultural capacity of human beings to build strong nets between Self and context.

When looking into CMD, Self and context seem to concretely be one, indistinguishable thing. For instance, when looking at the relationship between the «I» and the «we», and individual participation and sense of community, in CMD environments specific features appear and such features are able to impact also off line KB. In the following sections I will discuss a few possible theoretical re-conceptualizations based on results obtained by analyzing CMD experiences.

## **Re-thinking Identity as participation**

According to Wenger (1998) identity is the outcome of participation in community life. Participation changes personal stories and supports the development of community. Participation, in Wenger's theory (1998), «refers not just to local events of engagement in certain activities with certain people, but to a more encompassing process of being active participants in the *practices* of social communities and constructing *identities* in relation to these communities» (p. 4).

Lave and Wenger (1991) consider participation in community as following a certain trajectory. Initially people join communities and learn at the periphery. As they become more competent they move more to the

«centre» of the particular community. Learners progressively master the knowledge and skills required to move toward full participation in the socio-cultural practices of a community. «Legitimate peripheral participation» provides a way to speak about the relations between newcomers and old-timers, and about activities, identities, artifacts, and communities of knowledge and practice. A person's intentions to learn are engaged and the meaning of learning is configured through the process of becoming a full participant in a socio-cultural practice (p. 29).

In a research I conducted (Ligorio, Annese, Spadaro, & Traetta, 2008) participation in educational web-forums was explored. We found, in contrast with Wenger (1998), that participation is not such a linear and unidirectional process; rather multiple participation trajectories are possible. We were able to trace at least four trajectories, and these were not always linear:

a) *Stability*: some students tend to maintain the same level of centrality over time;

b) *Progressive centralization*: this is the linear trajectory, from the periphery towards increasing centrality, described by Lave and Wenger (1991);

c) *Progressive decentralization*: indicates an inverse linear trajectory to that above, towards an ever-diminishing centrality;

d) *Non-linear stability*: characterizes the trajectory of decentralisation in the middle of the discussion, before adopting a central position at the end of the discussion; or, conversely, central position in the middle of the discussion, before decentralising.

These diverse trajectories influence the structure of the community. In fact, those students who develop a stabilised trajectory of centrality over time are also those around whom the community builds a referential nucleus for communication exchange. This confirms that identity and community cannot be handled separately and concepts such as participation and belonging are used only as stratagems to look into the phenomena.

## Re-thinking Identity as positioning

Often, experiencing digital I-positionings may still be a novelty. The observation of how these positionings appear and how they are includ-

ed in the identity system may also be informative of more general identity building processes – even off line. I-positionings in virtual spaces emerge around the possibility of linking past experiences to new forms of participation proposed by the virtual community (Ligorio & Spadaro, 2005). The construction of new I-positions aimed at personal change appeared to be grounded into multiple memberships referring to various groups, communities, and experiences users bring in during the interaction online. At the same time, the community is transformed on the basis of the interactions between positions that take place simultaneously on multiple-levels. Therefore the distinction proposed by Hermans (1996) between «internal» and «external» positioning seems to be now too simplistic. Many levels of I-positioning are in fact possible; they range from an individual to a community dimension:

- *Individual level*: this refers to the dialogue between positionings expressed by a single individual, as described by Hermans's theory;
- *Interpersonal level*: refers to I-positionings elicited by others. The explicit positioning of a social actor in the interaction systematically brings up an I-positioning by his/her counterpart;
- *Community level*: refers to a dialogue between all the individual and interpersonal positionings of the subjects belonging to the community. The various positionings elicit one another to generate a collective identity where the individual contribution is no longer distinguishable.

Identity now has the same social nature as the KB process. By appropriating the sense of a collective enterprise, the Self opens to the other and the references to «Me» and «You» are slowly transformed into references to «We».

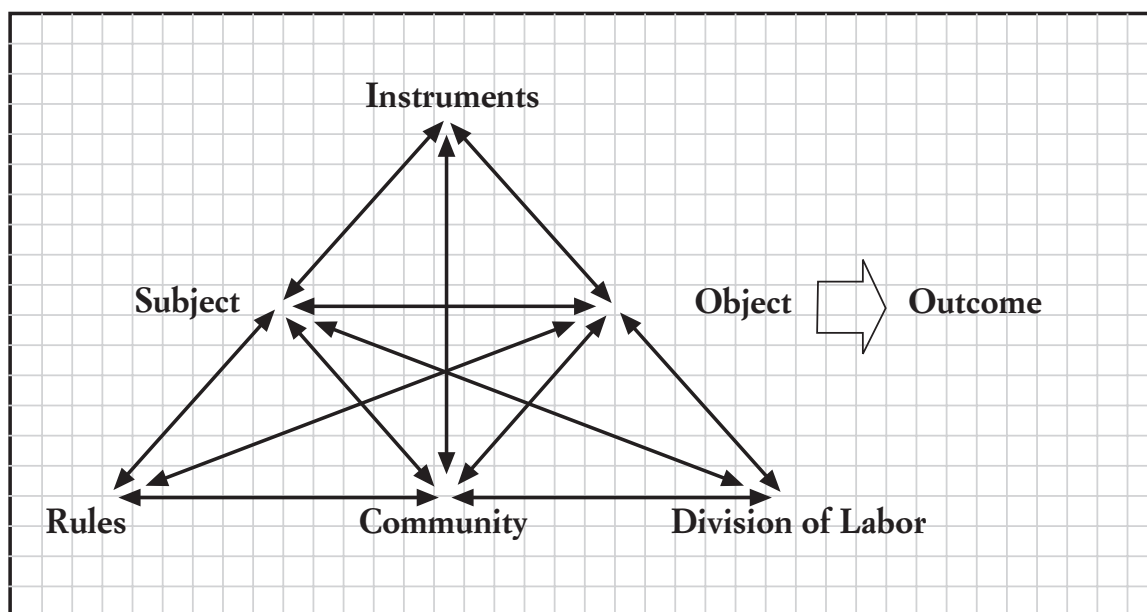
## **Re-thinking Identity as product of an Activity System**

So far the role of dialogue in knowledge and identity building processes has been stressed. Dialogue is at the centre of school practices, I-positioning, and computer usage. Within the community of practice model (Lave & Wenger, 1991; Wenger, 1998) dialogue is also considered as a fundamental aspect of such practices. In this way a strong connection between dialogue and action is drawn, therefore activities are qualified as dialogical activities. In order to fully grasp what dialogical activity

means, it is necessary to refer to cultural-historical activity theory (CHAT). This approach represents the latest evolution of the theory initially formulated by Vygotsky, Leontiev and their collaborators in the 1920s and 1930s. One of the main points of this theory is the conceptualization of the human psychological structure as determined by intentional actions and by the use of tools/artifacts covering a mediational function. In other words, who we are is strongly impacted by the intentions we have and by the tools we use. The idea of a «psyche» formed early on in the development, as Freud's theory suggests, is overcome. The «psyche» is no longer studied through psychoanalytic methods, but rather it is understood by studying human actions aimed at achieving goals. Such goals need a form of social coordination and in order to include this dimension the initial mediational triangle becomes a triangle composed of many sub-triangles (see Fig. 2). This new conceptualization is called the activity system (Engeström, 2001).

Within this approach the Self (or personality, in CHAT terminology) has been most explicitly addressed by A. N. Leontiev (1983). At the crux of Leontiev's idea there is a Self originated in actual processes of

**Figure 2.** Representation of an Activity System



human activity and developed within transformations of its structures, including prioritization among various elements of object-oriented activity. This implies that the history and logic of the human Self is the history and logic of the functioning and development of human practical purposeful activities.

The suggested emphasis on practical activities could appear – at a superficial glance – in opposition to the stress on dialogue. This apparent contrast is solved by a proposal that we consider the notion of *leading activity* (Stetsenko & Arieviditch, 2004). Similarly to dialogical practices, leading activities are real-life activities that most explicitly position individuals in terms of their meaningful contribution to ongoing social collaborative practices in the world. Some leading activities contribute clearly to the development of the Self; these activities are:

a) Collaborative activities, real-life practical tasks consciously performed to impact and pursue changes in and about the world (including oneself as part of the world). In this sense the Self is a tool to change the world;

b) Collaborative activities strictly and explicitly connected to the personal life-project, addressed at changing one's Self. In this sense the outcome of the action is to produce a change in the subject, which is also the one performing the action; in other words the Self is now a tool to change the Self.

These two activities share the adjective «collaborative». This stresses the conciliation between individual and social dimensions, and also points out that we are talking about a genuine collaborative knowledge building process. The Self – as knowledge – does not pertain exclusively to the individual: it is a social, collective, historical product.

The stress on collaboration also brings to the foreground the notion of dialogue, which is now conceived as the place where: a) genuinely constructive and practical material processes take place; b) subjectivity and Self as the emergent reality of social practice appear reciprocally connected. *Individual (agentive)* and *social dimensions of the Self* are reunified on the basis of a dialogical activity meant to support collaboration and, furthermore, to ground the activity in a socio-cultural, historical discourse.



## Closing remarks

From the re-thinking sections we can outline the following points:

- a) positions and trajectory of participations are complex, non-linear, and influenced by contexts;
- b) Self is both the promoter and the agent of complex, leading activities;
- c) dialogue and action are indistinguishable;
- d) the social and individual dimensions are inseparable because they are grounded in a socio-cultural discourse (the quality of the dialogue also depends on the cultural and historical context);
- e) and finally the Self is the ultimate outcome of a genuine and deep KB process.

Based on these closing remarks it can be contended that a new representation of the Self is needed. The triangle proposed by the Activity System should become a cone because Outcome and Subject are closely referring to each other. The pursued Outcome is a new Subject, or at least new parts of it, obtained through dialogical, collaborative and practical knowledge building processes. To represent such a Self a three-dimensional, dynamic and multilevel, multidirectional figure should be designed.

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