

**IDENTITY IN THE CYBERSPACE:
THE SOCIAL CONSTRUCTION OF IDENTITY
THROUGH ON-LINE VIRTUAL INTERACTIONS**

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ABSTRACT

This paper refers to the recent theoretical advances on the dialogical construction of self, applied into a particular interactive educational 3D virtual world. The aim of this study is to analyze how identities are built and maintained in this type of not-immersive cyberspace, where the 3D interactive environment is completely generated by the computer, planned, and built by a community of learners and practice (Brown & Campione, 1990; Wenger, 1995). During the on-line connections, users are personified by an “Avatar¹” and through it they can walk, fly, look around the virtual world, build and manipulate the 3D objects, perform virtual actions, and chat with other users. The assignment given to the community is to construct an educational world, called “Euroland”. A selected sample of excerpts from the textual chats generated while visual interactions are taking place is analyzed, supported by related screen-photos, using the ethnographic method (Geertz, 1973; Duranti, 1992). The analysis shows how identities are built in such environment through social interaction and dialogical processes. It is concluded that cyber identities seem to be highly congruent to the development of the recent psychology that considers identities as multiple in their conceptualizations (Gergen, 1991; Glass, 1993), “voiced”, and “positioned” (Hermans, 1996).

INTRODUCTION

The particular cyberspace studied in this paper is an educational 3D, desktop, and Internet based virtual environment populated and built by students, teachers, and researcher. The virtual environment has been developed within a corss-national project (Italian and Dutch), founded by the European community, monitored by the University of Nijmegen (NL), and supported by the University of Rome (IT). Main goal of the project is to set up a *community of learners and practice* (Brown & Campione, 1990; Wenger, 1995) able to construct cultural 3D objects through mediated communication and active knowledge building. In order to achieve this goal, several communication tools were made available, both text and visual based, synchronous and asynchronous, all embedded into a virtual environment created with the *Active Worlds*² (AW) (<http://www.activeworlds.com>) technology (Ligorio & Trimpe, in preparation). AW is a desktop

¹ The word Avatar comes from the Indian culture and means “reincarnation”. The reference is in particular to a God called Visnú that was able to reincarnate him-self through several and different faces. In the Internet the word Avatar is used to describe the “object” representing the user and it can be a two or three-dimensional photo, design, picture or animation.

² The Active Worlds Inc. developed this software and made available a special “universe” only for educational purposes, where citizenships are given only to the registered people in order to monitor the access to the worlds.

based software, user-oriented and based on not-immersive virtual reality, where interactive environments are generated completely by users build the 3D houses and populate the environment (Bricken, 1991; Bricken & Byrne, 1992). In AW users can walk through, navigate, and fly over a three-dimensional world completely built by them. The presence of each user is visible thanks to “Avatars” that provide the point of view, the perspective of what can be seen. Each Avatar has a different repertoire of virtual action and a specific look, but all of them can chat synchronously with the other Avatars connected. In fact, multi-user and synchronous interactions are allowed.

Thirty-eight students from 9 to 15 years olds and ten teachers, from seven different schools, four of them located in Italy and three of them in the Netherlands, plus four researchers with different roles connected regularly during the 1999-2000 academic year. Teachers and researchers were involved as tutors and as well as designers and builders of the virtual world, following methodological and theoretical principles given by the community of learners and practice models. The overarching assignment was to build a shared virtual world, called Euroland, by agreeing on a set of 3D houses, chosen by the whole community through several brainstorming and discussions, taking place both on-line and into the classrooms. Two different types of 3D houses can be distinguished: houses for their own school group, and cross-cultural houses. The first type of houses can be considered as related to a social representation of their own real-life group, the second type of house fosters, indirectly, the sense of belonging to the new cross-national virtual community.

In this project the focus is on *collaborative learning*, framed into the *constructivism* (Papert, 1991) and *knowledge-building* (Scardamalia & Bereiter, 1994) perspectives, with a particular attention to the cognitive process of creating new cultural products. It is assumed that learners construct their own knowledge, which is not transmitted from one person to another, nor is an entity to be emitted at one end, encoded, stored, retrieved, and reapplied at the other. Learning is *situated* (Brown et al., 1989) in a rich context and its content is embedded in the use of it, thus cannot be pre-specified. Learner’s involvement into the process of knowledge construction, development, and evaluation of arguments and reflective awareness is the main goal of an effective educational environment and collaboration encourages the understanding from multiple views. The *computer supported collaborative learning* (Lehtinen et al., 1999) approach legitimizes the use of computers as cognitive artifacts supporting active and collaborative

knowledge building and learning, among actors placed at a distance. Indications coming from the community of learners and practice are used to organize the task, to define the roles of the participants, and to guide the analysis of the data.

The development of a virtual reality environment is combined to the research in class. This means that teachers and researchers are involved into action-research to test the potentiality new educational environments and to contribute with ideas, hypothesis, and evaluation. In this paper the educational effects as well as the process of building up a community are left at the side³ and the main focus is on the social construction of the identities in such cyberspace.

THEORETICAL FRAMEWORK

Building identities in virtual communities

Virtual environments open the door to new identity experiences. Entering in a virtual world where the real characteristics (both physical and personal) are not directly evident to others is, from a psychosocial point of view, a way of communicating which implies new ways of being, of showing and negotiating identities at stake. Having the possibility to enter in a new community, where any personal information is directly shown to others, is a possibility to experiencing different self and thus to show and build new identities.

This study is based on recent consideration from the social psychology approach about the individual and social identity as not stable characteristics of individuals, but rather as a dynamic phenomenon. The concept of *positioning* (Harrè and van Lagenhove, 1991; Hermans, 1996) widens the notion of “role” based on stable and recognizable identity, bringing in the relevance of participating to a complex context such as a community: talking about “positioning” allows to imply several different possible identities that participants can assume within the same interactive context. From Harrè’s point of view, the choice about what possible self to show is driven by strategic moves that participants are acting within that situation. In this frame, positioning is related to the persons’ perception of how that social situation is characterised and what features could be more relevant, more effective in that specific situation. Playing different identities is then a resource (Antaki, 1998) that participants can use to give relevance to their argumentations during the discourse in interaction.

³ Those aspects are elsewhere inquired (see Ligorio et al. 2000; Ligorio & Trimpe, in preparation)

The cultural psychology (Cole, 1995) stresses the relevance of studying communities as the activity systems where meanings are co-constructed, as the “place” where meanings are built and negotiated among members. From this point of view the participants’ positioning can be seen not only as an individual move, but also as a phenomenon that is both *context shaped* and *context renewing* (Schegloff, 1992). This implies that identities built during the interaction are not only depending on what each one decides to show about her/his self in that context, but also that the context itself plays an active role in guiding and modelling the possible choices. In fact, the context gives salience to some specific characteristics of each person, according to that specific type of community and to what is happening into that community. Wenger (1998) says that the *negotiability* of meanings inside the community is not a democratic process and those members who have some specific functions among the groups (i.e. experts) have a wider access to the negotiation process (Talamo, Zucchermaglio and Coccetti, submitted). Within this framework the salience of the identity of each community member is related to the “ownership of meanings” (Wenger, 1998): the experts’ role is crucial in legitimating possible identities and in giving criteria for determinate what is salience inside the context.

Identities in discourse

What does really happens while building a community at a distance? How will people introduce themselves in a community where they do not know each other and where usual face-to-face clues are not available? What are the most relevant dimensions used in order to choose the positioning inside the group? From where do they start? Questions like these call for a deeper analysis of interactive discourse into the virtual worlds, aimed at describing the processes of the co-construction of the identity in computer-mediated communication. The problem of how to take into account these phenomena during the interaction analysis is related to the way the researchers interpret how the participants’ use their salient characteristics to build the social structure of the context during the interaction (Schegloff, 1992). Ethnomethodology (Duranti, 1992) stresses the importance of surveying those salient characteristics in order to describe the context as the speakers build it via the discursive interaction. Each participant is provided with a rich “repertoire” of identities that are used as interactive resource and as criteria to set what is salient in defining their self and the others (Drew and Heritage, 1992; Hester and Eglin, 1997). As Sacks illustrated (1992), the way people use identity during discourse in interaction shows

that identity is *occasioned* (meaning that the specific context in which participants are interacting shapes the way they can negotiate identity) and *indexical*, in the sense that the terms they choose to give salience to specific aspects of the self are strategic and related to speaker's aims in that specific interactive moment. It is also suggested that the choice users make in terms of social identity and self-presentation are guided by their rhetorical aims (Zuccheromaglio and Talamo, in press; Talamo and Zuccheromaglio, submitted). Speakers choose which aspect of their and others' identities to give salience to by choosing terms which are in accordance with their specific aims in that specific moments and by using detailed and unambiguous verbal categories as a negotiating resource acted via discourse (Wetherell and Potter, 1992; Edwards, 1998).

METHOD

Data are collected through two different methods:

- a) Through a final questionnaire administrated at the end of the project to both teachers and students. The questionnaire is addressed to collect the self-assessment about the whole project, included the modalities of using the Avatars. One open-ended question is addressing the issue of whether participants used stable Avatars or not.
- b) Specific events involving the social construction of the identity spontaneously generated into Euroland. Chats related to those events are selected from the whole log-chat that was automatically recorded by the software. Three different types of actions are related to the chats: choosing or changing the Avatar as artifact to represent them selves; Avatars interacting to each other; building the 3D houses.

SYSTEM ANALISYS

Three different system analysis are used to inquiry the social construction of the identities in the 3D educational cyberspace used for this project:

- a) The answers collected through the final questionnaire are considered as descriptive of the "relationship" established with the Avatar/s. Similar answers are grouped and the answers of the same type are labeled in accordance to their content. It will be displayed the percentages of each type of answer, comparing that coming from the students to that given by the teachers;

b) The selected chats are analyzed through an ethnographic method (Geertz, 1973; Duranti, 1992) and the conversation analysis (Sacks, 1992). In selecting the chats, four topics are founded:

1. **Talking about Avatars**
2. **Defining specific aspects of the self**
3. **Personify unreal identities**
4. **Talking about the real identities.**

c) Since this type of environment offers new opportunities to express and build original aspects about them selves and the others, the tree-steps methodology (Marková, 1987; Linell and Marková, 1993), tailored for the construction of new information about the identity, is applied to synthesize the data collected through both the questionnaire and the chats. This type of analysis is aligned along the psycho-social approach that sees as relevant the reciprocal influence that people have on each other in setting up social images (Tajfel, 1985; Grossen et al., 1996; Iannaccone et al., in print).

RESULTS

Results will be presented into three sections: a) results from the questionnaire; b) results from the chat analysis; c) three-steps analysis aimed at synthesizing the results.

A) From the final questionnaire. The questionnaire provides self-descriptive data, while the spontaneous events are considered as provoking the dialogical and social construction of identity in the type of cyberspace provided by this project. One of the questions contained into the questionnaire clearly refers to the experience of choosing an Avatar. The question was so formulated: “*Did you use always the same avatar? Why?*” Through the answers collected six specific representational process of the self through the Avatar were identified. Each approach is reported quoting along the most representative answer.

1. Experimental approach: “*I tired several Avatars and what impressions they give to others*”. This type of answers refers to the process of trying out the different Avatars available, checking what it is possible to do with each of them, and what impression the others may have from it. No stable Avatar is choose and it is preferred to experiment with all of them rather than

using a fixed one. The 62% of the students describes this type of process in their question, while none of the teachers answered in this way.

2. Need to be recognized: *“As soon as they see me they say: here he is!”* A stable Avatar is used during the whole project in order to allow the interlocutors to easily recognize the user. This strategy is strongly preferred by the teachers (80%) while only the 22% of the students uses it.

3. Situated approach: *“I change the Avatar depending on the situation: to chat well dressed, to build more casual.”* A different Avatar is chosen depending on the situation. The 10% of the students interviewed gave this type of answer.

4. Identification: *“I was looking for the Avatar that looked more like me.”* A small percentage (6%) of students is evolved into the process of selecting the Avatar that mirrors their real look.

5. Social choice: *“I used that Avatar because E. asked me to do change the one I had before, she didn’t like it.”* Very rarely (2%) but still interesting is the process of selecting or changing the Avatar in base of a request of other interlocutors. This process is based on a strong desire of socially acceptability.

6. Avatar no relevant: *“I don’t know ...most of the time I don’t even knew what Avatar I had on!”* This type of answer it has been found only among the teachers (20%).

7.

In general, it is observed that students generate a wider variety of types of answer while the teachers are distributed between two processes: either they stick to the same Avatar or they do not care at all about it.

B) Results from the chat analysis. The results from the chats are presented in reference to each topic individuated.

1 - Talking about Avatars. As already shown by the questionnaire, the choice of an Avatar is much more important for the students. In fact, quite often they are involved into discussions about what Avatar to wear. Thirty-two were the Avatars available in EuroLand (see figure n. 1) and all the users were free to choose the one they liked most and to change it at any new connection.



Figure n. 1 - The Avatars available into Euroland

The help of others connected users is often request during the process of choosing the Avatar to wear. An example is given in this chat:

Valentina: can you give me an advice about the avatar
 Bea:.. sure .. tell me
 Valentina: it is better this one

Bea: this is a bit as a vamp
 Valentina: or this one?:
 Bea: this is kind of classy
 Valentina: you think so .. I cannot make up my mind
 Bea: if you like we can do this

Bea: I can try them on so you can see also the face
 Valentina: I listen to you
 Valentina: or better ... I look at you
 [8 Feb. 2000]

2 - Defining specific aspects of the self. Several specific aspects of the self are allowed within this community. One of the most relevant is the emotional expression: despite the non-verbal communication, emotions are very often a central topic of the interaction both through special symbols - such as ☺ to smile and ☹ to express sadness – and through the use of just in purpose coined words. One of those words is “coccolini” (“cuddled”) that is a confidential name used to call the students. It is an Italian word that refers to “coccole” which means more or less “sweet and darling”, “to be petted”. In the chat below is report the first time this word as been used:

MILANO: ciao LP
Mantastrega⁴: ciao lp
Mantastrega: ciao :) also from me, manta
LittlePrince: ciao mantissima!!
Mantastrega: :))
bea: so .. Would you tell me a name and to whom you like to be consultant for example Valeria house of

Mantastrega: I would let you talk to my cooks ..
bea: now what guys? ...
Mantastrega: ciao LP we are the mantastrega's coccolini
[10 nov.1999 11.00]

The project manager (Bea) is trying to focus the attention of the connected users to the task, but the students are using a more emotional level of communication. They are making salient their being similar to cubs (the Italian translation of cub – cucciolo - sounds very similar to the word used by them) and as such, they need special attention and care. This specific aspect of the self becomes a social identity, through the legitimization of the project manager:

Bea: are the “coccolini” from Bari here now?

This example shows also how the self presentation is at the same time *context-shaped*, in fact this particular social environment allows the emotional expression, and *context-renewing* because new elements introduced by the participants are used afterwards by the experts to label others' identity (Heritage, 1984).

3 - Personify unreal identities. In Euroland most of the interactions are played around unreal identities, based on both the type of Avatar chosen and on the type of discourse established. One of the teachers from Milan plays the role of the witch to motivate the students at performing their task and to give a more playful dimension to the context. In the excerpt below she is introducing herself to one of teachers of a new classroom that enters the cyberspace for the first time.

mantastrega: Marco michela nice to meet you I am the witch ...ahahahaah
Valeria: do you want to become elf of our teacher?
mantastrega: Franco, do you want as well became one of my elf? (you would have magic power :))
[2 Feb., 2000]

The teacher from Milan introduces herself to the students from Bari proposing the witch representation. Valeria builds a shared identity with the newcomer by adopting the representation

⁴ This name is the combination of the word “Manta” that is a name of a fish (this teacher is a sub) and “strega” which means witch.

of her teacher. She asks Franco to join them and to become (as they already are) one of elves of Mantastrega. Since Franco does not reply, Mantastrega adds some more descriptive features to her proposed identity.

In the excerpt below Mantastrega's students are still trying to welcome the newcomers and only Bea knows that behind the Avatar labeled as MarcoMichela⁵ are not the pupils but one of the teachers.

Valeria: ciao MARCO!!!!
danilo: *ciao marco and michela
stefano: ciao marco and michela
bea: for now I am introducing you Marco and Michela's Avatar
MarcoMichela: ciao to all of you
Clarence: ciao :o)
mantastrega: we are happy to meet you marco and michela!!!
Valeria: CIAO michela
MarcoMichela: I am Franco
bea: Right now Franco, that is a teacher is using it

[4 Feb., 2000]

Reading the greetings that Mantastrega's kids are sending to whom they think is a companion, Bea introduces the Avatar as a "simulacra" of the connection that will be later used by the students in Bari. The representation of them is created behind their real presence and regardless the fact they are actually going to use that Avatar.

During another chat, one of the tutors is presenting him self as a penguin in order to support students involvement, especially of those that are not familiar to the cyberspace. During the selected chat reported below the class from Amsterdam connects for the first time:

Bea: Hello guys this is clarence⁶ the penguin
Clarence: :o))))))
Jonathan: the penguin?
Bea: sure ... he is a penguin don't you see it?
Clarence: how do you do?
Jonathan: hello penguin! (Clarence)
Clarence: hello Jonathan :o)))
.....
Bart L: These are my students and this is the first time they are here so they are still a little bit shy :)))
Clarence: :o) don't be shy ! I don't eat kids, but fish :o))))
[21 Feb, 2000]

⁵ The project manager assigned to the newcomer kids from Bari a double named account, combining the two names of kids working in dyads in front of the computer.

⁶ Clarence is the nickname chosen by the building expert that tutors the 3D construction on-line. As him self explains in another chat, the name comes from a movie where a second-class angel was called in that way. The tutor like that metaphor and decided to use this name into the cyberspace.

4 - Talking about the real identities. The rhetorical manipulation of real identities is used when talking. Some features of the self are made more relevant by the chatters in order to achieve in a more effective way, specific aims aroused from the interaction itself. The indexical choices are used as a resource that participants spend in the discursive path to have their own characteristics recognisable within the group. During some on-line connections, the students posted their photos into Euroland, so that all the other users could see their real appearance. Comments and discourses were provoked by this event. In the excerpt below the photo is generating a discussion aimed at single out each member of the group connecting from Modena that posted a group-photo.

bea: Ehi finally I see you!!!
 bea: and who are the others?.....
 Elena: the wonderful person in the back is our teacher
 bea: he looks to me a bit moved?
 Elena: he says no, it is a grimace of pain
 bea: of pain?? Why, what are you doing to him?
 Elena: nothing, is our closeness that makes this effect
 [17 Nov. 2000]

By explaining whom each of the people portrayed into the photo is, they also report some information about the climate of the class and the relationship between the students and the teacher.

In the excerpt below some students spontaneously describe an extra-activity undertaken by them related to the project. The project manager uses rhetorically her role to have access to this type of data and she checks whether this role is perceived as too demanding by the students.

Elena: while we were working Ylenia wrote a sort of report
 bea: A report? But is a wonderful idea
 bea: Could I have a copy if it ?
 Elena: in a few days
 bea: that's ok : (
 bea: I relay on that eh!?!
 bea: this is the defect of the researcher...
 Elena: basically we write down what we do
 bea: always starving to know everything
 bea: yes very good idea ! Well done
 bea: but I really would like to have a copy of it!
 Elena: ok
 bea: Am I too demanding?!
 bea: :(
 Elena: no, we will sent it to you, no problem
 bea: I am really interested on what you do
 [17 Nov., 2000 = PM]

C) The three-steps procedure for 3D chats

Euroland is a cyberspace set for a small educational community. Most of them connected for the first time to such a place and they did not have any previous knowledge neither about the software nor about the cyberspace in general. They started to walk around and to build the assignment-driven 3D building and to talk about them self in a fairly new way. New information was generated about and from those topics. For this reason the three-steps procedure described by Linell and Marková (1993) to create new information is suitable to analyze this experience. Based on both the information gathered from the final questionnaire and on the results from the chats analysis the three steps are visible but with a different content.

Step 1: A to B. The content expressed by A is not longer “this is my view” but “*what is your view?*”

Step 2: B to A. B says “*This is my view*” instead of saying “I have another way of seeing it”

Step 3: A says to B “*Now this is my view*” implying that she/he did not have any precise view before entering the dialogue. With the “now I look at it in other way” statement it was implied a previous conviction that was changed during the interaction.

The construction of identities in the cyberspace is strongly influenced by the context and the social interaction, since the first impression that speakers have about them selves is weak and based on new elements, such as wearing an Avatar or interacting via chat. The interaction in the excerpt below show that not being able to see the face of their own Avatar leads to a stronger need to relay on the others’ perspective:

Alessandra: *how can I see my own face?*
bea: *(to Alessandra) select the third view from the menu above*
.....
bea: *(to Alessandra) do you see now your self*
.....
Alessandra: *yes, I see my self but not my face*
bea: *(to Alessandra) for that you need a mirror ☺*
.....
Alessandra: *Ahh! I will ask Donatella⁷ if she let me see my face*

During this dialogue Alessandra is asking her interlocutor to give an impression about her look. Users enter the cyberspace without any already shaped opinion about how do they look and what kind of impression they give to the others. The information provided by the interlocutors is used as starting point to form a new representation of the self into the cyberspace.

⁷ Donatella is another user connecting from the same room where Alessandra is connecting at the moment.

CONCLUSIONS

In this study cyberspace is a new field where interactions and dialogues are recorded and observed in their occurrence. Being connected as researchers and at the same time as part of the community, gives the opportunity to document the fluidity of the identities and the complexity of the social negotiation. The results gathered show how self and social identity are not static characteristics of participants but are negotiated through interactive discourse. Virtual environments allow people to choose different versions of self and to move along wider and context-driven “positioning”. This becomes very evident during on-line interactions with other chatters never met face-to-face. The problem of which self to show during the virtual interaction seems to be a core problem defined inside the occasioned social context where the interaction itself takes place.

Postmodern theories of identity suggest that each individual is composed by “multiple populated self” (Gergen, 1991) with many voices, not necessary harmonized to each other and some times even in conflict (Glass, 1993). Action and communication are at the base of the constructive and interpretative process of building identities and those processes are distributed into the context composed by other entities, cognitive artifacts, and relationships (Perkins 1993). Identities reside not only in our mind but also into the context and into the artefacts we interact with. Communication and discourse are used not as processes to describe the self but to construct it; not as consequence of what it is said, as entity reproduced into the language but as built with and into the language (Bruner 1990, Holquist 1990; Shotter 1992).

Some recent literature (Biocca, 1997; Taylor, 1999; Cassell & Vilhjálmsón, 1999) is calling for a development of computers and virtual environments based on the centrality of the progressive or fully embodiment of the self into the computer interface, either through Avatars or immersion. A more psychological point of view, rooted into Cartesian believe of “I think, therefore I am”, stands for a disembodied self, essentially different from the body and other material extended in space. In fact, the embodied self is always tied in a particular position in time and space. As Hermans et al. (1992, 29) says, quoting Merleau-Ponty (1945/1962) “being embodied the person is not able to “fly above” his or her position in space and time”. Into the cyberspace “flying” over, as well as passing through 3D objects, is very easy and rather usual activity that Avatars do and gives a completely different nature to the “body” used to represent

themselves. The attempt to consider the virtual body as an extension of the real body comes from a theoretical development of the idea that “the body is a representational medium of the mind” (Biocca, 1997, 3) and “the fundamental communication hardware” (Biocca, 1997, 5). Developing this line of thinking, the computer is an extension of the body and the interface establishes a tight and pervasive coupling with the body. That scholars believe that Descartes is fundamentally wrong (Damasio, 1994) by separating the mind and the body and that identity substantially coincides with the body (Donath, in preparation).

Our results show that identities in the cyberspace are co-constructed, situated, not stable, occasioned, and indexed, thus embodiment with one or plural Avatars is only one of the elements in play when negotiating identity and “positioning”. Unreal identities can be acted based on the Avatar’s shape (is the case of the tutor “penguin”) but also exclusively on the discourse engaged into the environment (as the case of the “fish-witch” – Mantastrega - that does not wear an Avatar related to those characteristics). In any case, the specific contexts and situations are shaping the digital presences and identities. Euroland is an educational world, where tasks are designed and accomplished under the adults’ guidance. This setting leads the adults to the approach of being easily recognized either by a stable Avatar or a specific dialogue based representation, in order to be more available in offering guidance. Instead, students adopt a more wider range of processes in deciding whether to keep always the same Avatar or not. In any case, the social influence in shaping the self-representation and the different possible “positioning” is very strong: “Eurolanders” connect to their cyberspace with the wonder of how the others perceive them!

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