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# Communico case study: an e-learning community environment

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# 1_ Communico's Community

Communico is the name of a virtual community that has been operating since 1998 as part of the academic course "Multimedia Communication", held by Professor Mario Ricciardi.
The purpose of this paper is to present the current edition (2003/2004), developed with a group of 60 students belonging to Cinema and Communication Science Engineering Course.
This project is based on and requires a new way of designing didactic courseware and, as follow-up, it establishes specific individual and group socio-identity dynamics.

The community interface is structured in two distinct areas:

- *Formal/institutional area* focused on didactic paths (it deals with subjects related to CMC, theories and new media figures) run by tutors who propose activities and check upon conversational progress.
- *Informal area* opened to discussions on different topics (courseware contents, subjective evaluations, free talks on different subjects) run by students in a free and horizontal way.

The informal area works like an accelerator of socialization processes, overriding social and physical filters and activating thoughts and evaluations, sometimes personal but mainly relevant to the educational goals of the courseware.
All media are at the complete disposal of tutors and students and are integrated into the system and helpful for the cooperative work, mostly these run in an asynchronous (forums, personal pages…) and synchronous (chats) manner.
The community building process is based on some steps; these steps are reformulated on a yearly basis, according to the feedback and experience of the previous year.

1. Start up (one week long)
   1.1.1. Individual profile activation (each member of the community - student, tutor, Professor- has to build his/her own virtual identity).
   1.1.2. Open free area activation (*informal forum*), here starts the first socialization and peer-to-peer learning of the user interface.
   1.1.3. Didactic forum activation with an introduction to discussion themes and community management procedures.
2. Modules (three modules each lasting ten days)
   2.1.1. Introduction, by the tutor, of a discussion subject.
   2.1.2. Description of the goal – after a few days – usually a practical project handed in by students at the end of a module.
   2.1.3. Assessments and introduction of new modules (group projects and individual projects), generally module goals expand from first individual projects to group projects in synergy with the last individual module.
   2.1.4. Final Assessments.

Communico learning model is a modular kit made up of community dynamics and integrated didactic processes driven by different tools articulated in an open-ended way.
Tools could be summarized in this way:

- **Technical tools:** messaging board, content and communication archiving, information retrieval
- **Content tools:** texts, notes, online libraries, and research pathway. These materials are expanded and produced by all community members (professors, tutors and students)
- **Human tools**: professor and tutors – acting as moderators and activators constantly following the community demands, potentialities, aptitudes, personality and style.

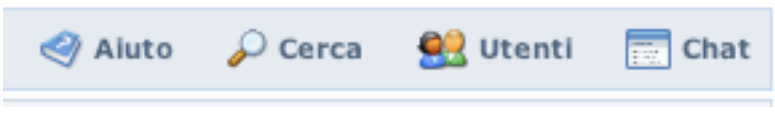
Communico's experience has shown that group and community identities, based on collaborative support, are more profitable than individual competitiveness.
Students have turned network knowledge into expertise, from a first unsteady and partial knowledge through a "to be able to" knowledge and at the end to a "to be able to be" in/the community.

# 2_ System and Interface description

Let's take a look at the collaborative interface aspects, from a usage and technical point of view.
Customization of groupware software has stemmed from the choice of an application supporting group work and information sharing, capable of managing basic bulletin board features, but being at the same time a sufficiently open environment.
The chosen platform has been IPS' Invision Power Board, a professional product in the area of php based forum software , thus belonging to the open source philosophy, which makes it relatively easy to be linked to the most popular database systems; Communico configuration at the end includes a Mysql database running on a Unix OS web server.
Three main functionalities of a collaborative environment are guaranteed from a technological view point:

1. *database*
2. *communications*
3. *user interface (Vertenlney, 165)*

*The database has a shared memory and project archive* (Vertenlney, 165) and *information, in order to establish an audit trail for accounting purposes* (Vertenlney, 165) and, in this specific case, for learning purposes. Each contribution is recorded with the student's name and all the information concerning his contributions: links to time and answers.
The communications typology is asynchronous but during the teaching process it was noticed that synchronous communication (i.e chat) was relevant to the stable collaborative work group and thus, a real time chat system was included in the system in parallel to the web forum.



As can be seen from the tool bar, below it is explained where it is located, the user interface has got a simple and easy-to-access look and feel consisting of intuitive icons along with explanatory texts, their functions being: help, search, user profile and chat.
By taking a step backwards, when user connects to the environment she/he must log in with his/her name and password because access is only granted to students belonging to the course.

## Home page

On the top there is a header, just below the navigationl bar for folders and subfolders browsing with the structure always higlighted. On the right, there are key buttons for users.
The body of the page is the forum itself structured in three areas. We shall now analyse this structure.



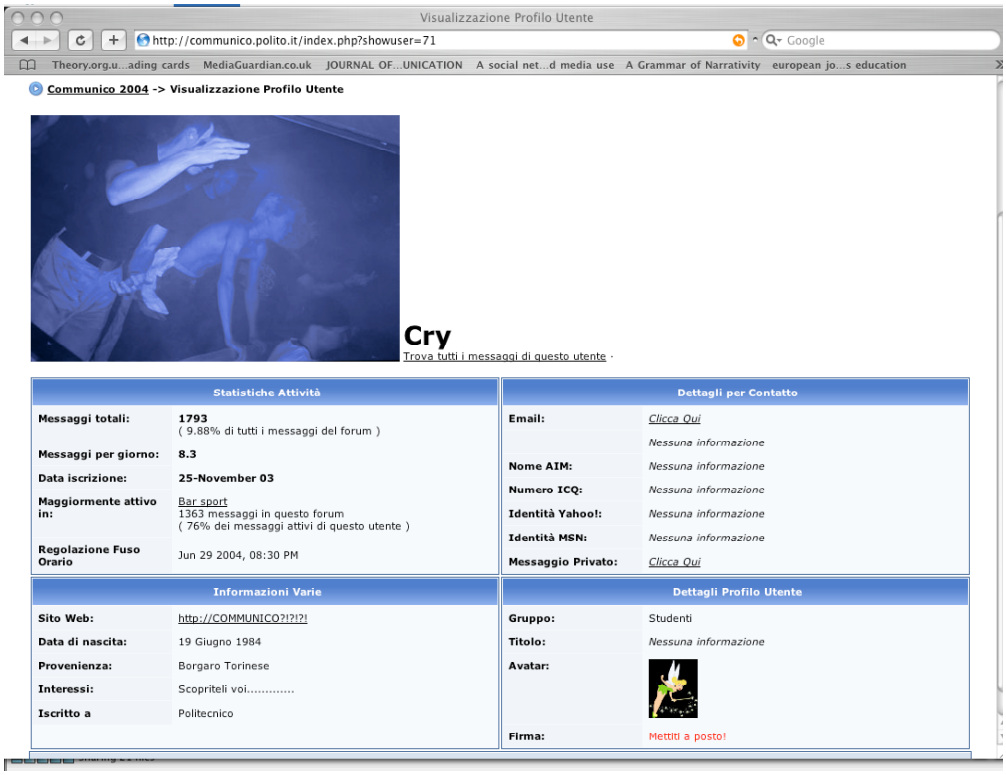
As shown in figure 1, the forum area is made up of a three field grid plus a footer for real time information such as user access number and for a direct link among online users: statistical data are updated in real time upon each user's connection.
Such a division into three areas is due to a well-defined strategy developed with the environment usage during several years of teaching in order to develop and guarantee the community idea and the social relationships typical of a face-to-face communication environment, which is not so easy to activate and keep alive in a web-based course.
The first area is a didactic one, where the course subjects are shown . The second area is for different helps related to the course, such as forum help and credits help. The third area is the one aimed at social aggregation, where the differences between professors, tutors and students are levelled off, this area is called Bar Sport (Sport Bar). This area is very important to develop a sense of community typical of social classroom relationships and used as a developer of ideas, further developments and suggestions together with students in a friendly environment, which is essential to online learning.
This pedagogical model for online learning processes is structured according to rules which are not only applicable anywhere and at anytime but rather according to something called ALN ("asynchronous learning network"):

> *A very different model implies using the technology to try and create the kind of learning community that can arise in a good graduates' seminar, where the students learn with and from one another, collaboratively, and the faculty member structures the topics, provides expertise, and works closely with students preparing their projects for presentation to the group. In this model, the faculty member himself or herself is directly and actively involved in facilitating collaboration and group interaction among the learners, on a daily basis; and there are limits to the number of students who can be successfully placed within such a "learning network" (Harasim, Hiltz, Teles & Turoff, 1994) format. (Starr Roxanne Hiltz, 1998)*

Colour definition is simple for the contents of the structure: different shades of blue keep the idea of horizontality behind e-learning collaborative environments, with an evident contrast between the background and the foreground, so as to favour the visual reading of the page layout.

## Users's Authentication

In order to access Communico, each user has to log in and as a first step establish the community need to define a personal profile, a **cyber identity** – an avatar – in a shared space. A complication in activating community dynamics for e-learning is the presence of individuals *[take] on different roles* (Grudin,172) in this specific case the roles were: professors, supervisors and students.
The dynamics of defining the cyber identity, similar for all the roles, facilitated the *"promotion of a friendly social environment essential to online learning* and then this social environment was subsequently used as a base to activate *structured work processes so as to enable people with distinct roles to cooperate on the same task*. (Shneiderman, 1998, 480)




# 3_ Learning in Communico

The theoretical framework behind the management decisions of a didactic method mainly carried out and conveyed through a virtual community is that of the knowledge economy.

In the information era, where the main source of productivity *lies in the technology of knowledge generation, information processing and symbolic communication* (Castells, 2002), and where the relationship between technology and knowledge consists *of a virtuous circle of interaction between technology knowledge sources and technology application with the purpose of perfecting the generation of knowledge and the processing of information* (Castells, 2002), a social-technological tool such as a virtual community becomes necessary, in our opinion, for a training activity, in its sense of a propelling agent of knowledge, which tries to adhere to the social-economical context within which it is placed.

The knowledge economy represents on one side the new economic context of post-industrialised countries, on the other side, the culture underlying such a context.

Terms such as Knowledge Era and cognitive capitalism are not only a new economic theory, but also a paradigm influencing society and culture.

The training and education issue is set against this context. How is it possible to make the most of the knowledge resource in order to generate/produce value?

To us, "making the most of it" has meant choosing production management dynamics through the use of a virtual community which take into account those intrinsically positive aspects of knowledge that Rullani has skilfully highlighted in his text *Knowledge economy*: multiplication, interpretation, self-regulation. (Rullani, 2004)

These aspects are promptly supported by a tool such as that of virtual communities where, by necessity, or so we would say, the ability to multiply the uses and as such the end value, the ability to interpret and as such to give a non-strictly instrumental meaning but rather a subjective/reflective/emotional and experience relating one, the ability to self-regulate social relations by "building effective rules governing the mutual interdependence" (Rullani, 2004), are backed by the intrinsic characteristics of the technological medium and of the common usage that people are used to making of such a medium.
In a virtual community it is immediately clear to the players involved that the personal knowledge comes hand in hand with a type of knowledge which we call social, in the sense of being shared: "The social knowledge has a multiplying power which is missing in the personal knowledge. The "secret" behind the multiplication of knowledge making the social knowledge competitive is the sharing of knowledge, which, by extending its pool of users (or better still, re-users) makes it possible to reduce redudandances." (Rullani, 2004).
In the community spaces, a tutor give students and groups the task of working on parts of the course themes and then ask for these parts to be shared, viewed by all.
In a virtual community the students represent a collective subject that needs to be motivated by pushing each single member to act towards a common interest. Thus, a didactic method using such a tool must, on one hand, create a group identity (through inputs raising a digital awareness of the identity of each individual and each individual in relation to others, for instance: the development of one's own avatar, the sub-division into groups and the request to autonomously choose a harmonious image of the group itself), on the other hand, constantly implement motivation strategies (such as: rewarding the group that has carried out mutual supporting actions and collective work).
The main objective must be to create an environment and a community sharing knowledge according to mechanisms which we could define as competitive cooperation, gaining the advantage of ""the capital of a social network, the capital of knowledge and the community sense"; people contribute to it with their own knowledge and feelings, and benefit from an ever increasing amount of knowledge and social occasions" (Rheingold, 2003).
A virtual community is a real cognitive mediator supporting the sharing of knowledge from the local to the global dimension, it is "an artificial relationship medium making the enlarged sharing of knowledge easy, cost-effective and reliable" (Rullani, 2004).
It must be knowledge space, where the knowledge is the result of a collective intelligence, "spread everywhere, continuously enhanced, coordinated in real time, leading to an effective mobilization of competences" (Levy, 1996).

## 3.1 Didactic design and organization

Structuring the didactics has required several phases:

**1-** Decision on how to divide the students into groups. Among the several options available, we chose random criteria, beginning with an alphabetically ordered list.
Every group was made up of twenty students from the Polytechnic and about 8 from the University.
Students from the Polytechnic had about twenty hours of lab work, while students from the University worked on *Communico* exclusively online and remotely.

**2-** Decision on the scheduling of activities. We opted for dividing the activities into three periods corresponding to three credits, for a length of 10 days each.
In choosing the schedule we did not foresee that some exams and courses would overlap with the group's activity. For instance, the third credit was being held at the same time as other courses were ending, thereby having students preparing for more

than one exam at the same time. This variable was crucial to the participation and had an impact on the quality of the final work, as the students, stressed by the many simultaneous deadlines, lowered their performance in the third credit.

**3-** Decision on the topics around which to develop the activities. Together with the course Professor, it was proposed to work on the issue of identity in relation to the use of new media and to the mobility of the individual (intelligence over space and time) linked to mobile technologies. These themes were key in the course lessons held by the Professor, and the activity of the virtual community served as a benchmarking, and experimental test, a practical approach to the themes offered during the course, through texts and theoretical reflections.

**4-** Decision on an educational approach. The focus was placed on "fostering the differences" in a collectively shared framework. The three tutors did not follow the same themes during the periods, nor were students called upon to complytheir reasoning with given notions but they were asked to elaborate them critically and in a personal manner.

In further details:

The first credit had the purpose of allowing the student to familiarise himself and get to know the tools (a virtual didactic online, asynchronous community). By "familiarising" we mean: getting to know each other in a different space from the physical classroom; learning roles (the professor, the tutor, the peers, etc.) and instrument–specific participation procedures. This is why the final work required from the students was simple and was to be done individually: a biography of key figures from the media world , edited from materials available on the Internet.

The second credit had the purpose of developing the sense of community and collaborative remote work, as well as understanding some theoretical concepts put forward by the sociologist Manuel Castells[1].

The final work was a group task.

The third credit was designed as a sort of transversal activity: following an individual and a group task, both done in one's own macro group, all macro groups had to be compared with one another. In order to do so, the three tutors opened discussions in all three groups, trying to convey a transversal vision of the community that would go beyond the functional original division into groups.

The final work for the last credit had ultimately to be done individually, to allow tutors to be able to formulate final grades for each and every single student.

**5-** Decision on grading criteria. As we will see in the following paragraph, several aspects of the students' activities within the community were taken into consideration, from the quality of the final work (the task given, content evaluation, its structure, the underlying research, the knowledge of texts indicated by tutors, etc.), to the degree of participation in the community (quantity and quality of posts, behaviour during group activities, etc.).

## 3.2 Evaluation methods

The evaluation of the didactic, social and cognitive processes originating from the work of a virtual community requires a complete revision of the traditional evaluating system typical of Italian universities.

The evaluation of a classic "frontal" course is generally done only by means of an exam (oral or written). Even nowadays, very few humanistic subjects have the habit of utilizing

mid-term tests, papers, mid-term evaluation or self–evaluation moments during courses, rather then at their end.
As Ricciardi says (1998), *there are very few opportunities to interact with the teacher and very few possibilities of the latter getting structured feedback on the effectiveness of the course, the level of participation, and the learning issues that have arisen*.
Traditional students therefore go through the six months of the course in a state of seemingly "cognitive apnoea", only to reach the single moment of the oral exam where they have to express the result of the learning process, a moment that often develops the communicative traits of an oratory performance that gives rise to only a few positive variables (rhetorical–communicative) while other skills and abilities are partially or completely penalized and invisible (for instance, the ability of forming relations or connections with other themes, critical abilities, lateral thinking, relational and communicative abilities in structuring group tasks).
Within Communico's system of didactics and evaluation, on the contrary, these principles are drastically modified.
Students are active subjects of the work ever since the first days of the course, and as such, both the teachers and the tutors are evaluating them.
The evaluation itself becomes a more complex and multifaceted task employing a series of both quantitative and qualitative, rather rich and well–constructed variables. Indeed, a judgment is made not only on the basis of the "knowledge" but also of the "know–how" within the community, that is, the progressive growth of technical and practical skills (html, use of emoticons, mastering of the interface, creation and deep–nesting of topics in discussion forums, etc.), useful to effectively communicate in computer mediated communication.
What is also evaluated is a further "knowledge of the self", or the development and mastering of the social–relational skill of forming an online identity and using it to interact with, benefit from, share and foster the heritage of collaborative experiences that the various virtual subjects introduce.
Not being strictly based on quantitative parameters of acquisition of knowledge/notions, the value of such an evaluation does not merely represent a final step, but rather an even more useful process as it does not benefit the evaluators alone, but it is, first and foremost, a feedback tool for the same students, an integral part of the task of mastering a new knowledge and the know–how of a new communicative "knowledge of the self".
The evaluation is no longer a frontal and unidirectional process, but rather a continuous flux of ideas, comments, points of view, about oneself and others, which originates from the evaluators and spreads horizontally among the student's members of the community.
What is therefore established is a process of observation and self-observation that fuels the *metalinguistic functions* (Jakobson, 1966) of communication in a virtual community, helping to achieve a deep and felt awareness of the didactic and relational processes it has triggered, but that also fuels *emotional* and em*pathetic functions*, as it stimulates the emotional participation and at the same time maintains a continuous bi-directional channel of communication between the community nodes.
Finally, the evaluation process aids in the creation of the *scaffolding,* that *is to say all those activities helping students to achieve a learning task and skills* (Calvani and Rotta, 2001), to support and incentive a structure necessary in an e–learning course to keep participation, interest and motivation levels high within the community members .
While a course performed in a virtual community lacks the non–verbal, informal and physical channels of communication typical of frontal courses, it nonetheless compensates for this through a rich network of tools for the collection, management, commenting and evaluation of feedback coming from the students. These tools allow for

a more systemic and organized observation of the interactions and offer the opportunity to make judgments and review strategies with greater insight and higher frequency.

We shall now examine what tools Communico offers, compared to a frontal course, in order to collect, analyze and manage the feedback coming from the community of students.

- **The employment of** a continuous process of ***participatory observation*** (Baym, 1992; Myers, 1987; Reid, 1995)**,** by the tutors and the teachers, who monitor the community forum several times a day. The main reason is to direct the didactic processes, and secondly to observe the emerging dynamics so as to assess possible distortions, shortages or slowdowns in the didactic process or in the community growth. Participatory observation is therefore employed as a tool of in-process *participatory design* of the didactic community (Laurel, 2003). Such an onus is unfeasible in a frontal course, where the ratio of students/teachers, the shape of classrooms and courses, the style, which is generally more "conference–like" than "seminar–like" as opposed to academic lessons, drastically reduce the feedback channels available to the teacher, often limiting it to the single moment of weekly meetings or the question time at the end of the lesson.
- **The permanence of written feedback messages**. It allows tutors to perform a detailed and reasoned analysis of messages, even asynchronously, through statistical means (number of messages, ratio of visits/messages, etc.) and qualitative means (content, topic analysis etc.), allowing for a multidimensional view of the ongoing process.
  A vague and ambiguous feedback such as the many–to–one visual feedback of a in–classroom course can become a far stronger and richer signal when turned into textual indicators of quantity and quality (number of messages posted, type of postings, presence in the community, participation to informal fora, etc.).
- **The usage of mid-term credits** and a bi-weekly program of activities, steps and goals. Tutors shape the didactical process so as to have small goals that the community can reach and measure, so that they can provide a rewarding feedback on the interaction within the community even on short-term basis. These dynamics are calibrated not to hysterically fraction the breadth of the course, nor to dilute the final goal. Instead, they help to provide an escalation of abilities/skills/tests that leads to the final goal throughout the whole month of activity of the community. The number of structured and qualitatively measurable feedback then grows considerably.
- **The opening of informal channels and communication methods**, added to the more specifically didactic ones. *Bar Sport* (the Pub down–the–street) and previously *Ormeggio per il dileggio* (the Moockering Mooring), are virtual spaces where students are allowed and encouraged to speak freely, in an environment where they can share experiences, complaints, support themselves and polish their relational roles within the community. These channels do not officially enter into the list of the ones tutors employ for observation and evaluation, and yet are a useful means of taking the patient's pulse, so to speak, in order to gain a better understanding of the participants' and enter the dynamics behind roles and relationships. Nevertheless, this channel is a mere means of ethnographic observation by tutors and the teachers, whose deontology calls upon them to not only avoid attending personally in directing or censoring talks inside, but also to avoid being influenced by the process of evaluation of messages and by the personal styles that emerge in this environment.
- **The incentivizing of horizontal channels of evaluation, among peers**, such as the forum used for commenting the organization of activities during the single credits and the one for commenting at the end of every credit or major step of the tasks assigned. These areas, usually started by an initial input from the tutors, are true spaces for

commenting and discussing not only one's own work, and its evaluation, but also the peers' work, allowing for an area of confrontation and comparison which is transparent and shared with the other community members. This is another process that is neglected during courses and frontal exams. There is the possibility of understanding one's mistakes and learning from them, but a greater critical outlook is missing, allowing, for instance, to see, compare and evaluate peers' work in a positive context which is not merely competitive.

Full visibility over space and time of every students' work and of the judgments formulated on them makes the evaluation task much more delicate and critical, thus exposing it to a greater control by the same community that is being evaluated. This calls, for instance, for clear and precise evaluation criteria, both quantitative and qualitative, so as to be able to back and motivate judgments with those students asking for further clarification or making comparisons over the grade received. The evaluation process therefore requires more time and attention.

On the other hand, this allows to turn the materials produced by the students from an individually accomplished final phase of a didactic work into a shared network of experiences, content, and work methodologies they can use to confront, compare and learn from each other.

The evaluation of intermediate credits have therefore less of a value of appraisal/reprimand and more value as a tool to tune one's own work methodology and share it with the community. These evaluations are an integral part of the intrinsic value of the community

Being the subjects and the evaluators of a shared world of content, rules, and values, augments the sense of belonging to the group, reinforcing collaborative and community–specific traits to the detriment of an individualistic and competitive style typical of the traditional teaching methods of Italian universities. The collection, systematisation and analysis of the feedback originating from these various channels is a concrete toolbox upon which the interactivity of the Communico online course is based.

If indeed a first form of interaction pertains to the interface system and the possibility of building and using hyper textual and multimedia content (similar to classical web–based courses), a second and more complex level of interaction, that contributes to connoting it as an "experience", is the activation of a rich multidirectional feedback network — students–to–teachers, teachers–to–students, students–to–students — that allows to observe and monitor a variety of variables and fine tune the evaluation process.

Communico connotes itself as a didactic community, and not simply as an online course because:

- It defines a variety of complex interaction methods
- It defines multiple direct and rich channels for the observation of the interactions occurring within the community
- It defines rules and assigns values to the interaction processes observed within
- It creates an efficient feedback circuit that helps to learn, build and introduce this system of values

## 3.3_ A survey about the on line collaboration: results from the participative process

### The purpse of the analysis

Starting from data processed from the forum, an attempt has been made at defining a few hypotheses regarding the collaboration of online groups. In particular, the focus has been placed on the making of the second Communico's credit .

The second credit, common to the three community macro groups (A, B, C), asked for a collaborative work with the objective of developing a hypertext on a topic defined by the teacher in collaboration with the tutors.

The topic, of a general nature, could be developed by the groups either as an indepth study of the general topic or as a reinterpretation of the original theme through a comparison with movies, books, and similar topics not necessarily linked to the main subject.

As an example, The B group received the topic of *informationalism*. Students approached the topic from Castells's arguments of (one of the texts used within the community) or developing an original reformulation of the topic: the *Carol Alt Canc* group, for instance, delved into an in-depth study of the diachronic development of *informationalism* by comparing it with Stanley Kubrick's movie *2001 Space Odyssey*.

The final project's format had to be HTML and could be produced in raw format with a simple text editor or via editing tools such as DREAMWEAVER or FRONTPAGE.

Following their tutors' directions, the students of each macro group had to split the work into sub-groups of a maximum of 5 people and start a conversation that would identify the group they belonged to. The composition of the sub-groups was done freely by the students.

The tutors suggested creating mixed groups of students from the University and Polytechnic, but in most cases, the two groups remained separate.

This section describes the work done by the seven sub-groups belonging to the group B. The sub-groups were told to work on the elaboration of the conversation topics for about a week.

The tutors advised students to collaborate online as much as possible, and monitored the development of discussions, helping sub-groups define the activity's topic. Within a few days in fact, every group had to start preparing a hypertext on a specific theme linked to *informationalism*.

### The research hypothesis

The purpose of the analysis is to describe the on line collaboration process developed by the small groups in B with the aim at the definition of define some common parameters in each group. A substantial similarity in the on line collaboration was our starting hypothesis.

We used four main parameters for this survey:

1) the number of messages (msg) posted in the conversation by the different small groups
2) the relation between messages posted and visits in each small group
3) the typology of the most frequent messages in each small group and particularly:
   a) Msg related to the task topic
   b) Msg related to the roles in the group

c) Msg about the task deadlines
d) Msg related to the production of documents ( texts, graphic layouts, tables)
e) Msg about the exchange of links and resources
f) Meta-messages

4) the volume of messages exchanged in a certain time period e.g close to the task deadline

The methodology that has been used to carry out the survey included different parts:

- The analysis of the data processed by the forum system related to the visits and to the number of messages posted in each conversation;
- a rough survey on the content of each message
- the volume of messages related to the development of the task

## Results

The conversations were opened in the same period: from the 17th December 2003 until the 19th; the data used in the analysis refer to the period between the 18th and the 28th December 2003: on this date most of the groups had already stopped posting messages in the conversations.
We should notice that among the groups mentioned only one, Mr Brujeka, didn't use the on line conversation. The amount of messages posted by this group was only 4 messages. On account of this, we didn't consider this group as a significant part of the analysis.
In the following table, we have summarised the total amount of msg posted and the visits to the groups:

| Subgroup' name | Msg posted | Visits |
|---|---|---|
| Free Veralli | 135 | 702 |
| Carol Alt Canc | 394 | 1887 |
| Hik Haec Hoc | 80 | 362 |
| Le mine vaganti (The floating mines) | 40 | 316 |
| Moe's | 25 | 252 |
| Charlie's Angels+Charlie | 83 | 441 |
| Mr Brujeka | 4 | 98 |

As can be seen from the table, the proportion of msg posted varies significantly: we have a very participative group such as *Carol Alt Canc* and a rather poor conversation as in the case of *Moe's or Mine Vaganti* (Floating Mines).
It could be useful to precise that, among msg we also should count the contribution made by the tutors, by the teachers or by other users of the forum. Nevertheless, we noticed that those kinds of msg were really few compared to those of the groups. The volume of messages is not related to the group size: each small group was composed of 4 students and each of them could access the forum from the University Lab or from home.
We also noticed that, especially for the Polytechnic students, the opportunity to meet directly in class or in another courses may have discouraged the on-line collaboration

but we don't have any further evidence of this. According to the relation between msg posted and visits, we remarked a general similarity among the groups. By visits we mean access to the group conversation: visits are anonymous and could be referred both to the group members and to every other user; it's impossible to define the precise generation of visits.
The proportion between visits and msg for *Free Veralli, Carol Alt Canc, Hik Haec Hoc* and *Charlie's Angels+Charlie* is 1 to 5, while for the other three groups the proportion rises significantly: 1 to 12 or 1 to 8.
In each group we could find the typology of messages mentioned before even if with different proportion among the groups.
Messages of type *a, c,* e are very frequent in each group. Especially a, - the topic definition – is very common. Students received clear instructions from their tutors: they had to clarify their project subject as soon as possible and, once they had done that, they had to start shaping the hypertext in chapters, paragraphs etc. This pressure probably pushed the groups to focus on the a type of messages.
Conversations were also used to exchange links and resources, document drafts, PowerPoint presentations or tables useful for the final work. We also have to precise that, in some cases, such as in the Carol Alt Canc group, resources were exchanged through a Ftp server. Even if this tool was not suggested by the tutor, we noticed that students optimised the resources available and found original ways to accomplish their work.
The deadline issue was not really argued by the groups: the brief period allotted to finish the task didn't require further milestones in between. We noticed that the collaboration within the group was so intense in this short time that most of them were working almost in a synchronous way, posting messages very rapidly and during the whole day. Of course this was much more evident among the groups which exchanged the highest volume of messages and especially *Free Veralli*, *Carol Alt Canc*, *Hik Haec Hoc*, *Charlie's Angels +Charlie*.
A big deal of msg referred to type *f*. We defined the *f* type msg as meta-messages: messages related to the sending, reception, technical difficulties or cognitive difficulties with the on line communication. Even if the students received technical assistance - a tutor who was devoted to solving technical problems in the forum and a didactic help represented by other tutors - we noticed this kind of messages all along the development of the task.
On several occasions the messages didn't relate to a real problem: most of the time they were requests of confirmation about messages sent, about some procedural information (message format, message size) or they could be requests to tutors about ongoing conversations. Very often, they asked us to check if their reasoning was within the scope of the topic and whether it was coherent to the teacher or tutor's expectations.
Students knew that they would be evaluated also according to their on-line collaboration so they probably wanted to make sure that their job was accurate. That could also be the reason for a certain caution in using the forum as we noticed from the great difference, in some cases, between msg posted and visits. Students may have preferred to lurk in the background in many cases instead of participating more actively.
The volume of msg posted near the task deadline presented a rather heterogeneous trend. According to the data processed by the forum's system, msg had progressively increased on the 22th, the day before the deadline, and drastically reduced on the 23.

In the following image we summarise the figures processed by the system.



Statistiche Giornaliere Messaggi (Da 18 Dicembre 2003 al 23 Dicembre 2003)

| Data | Risultato | Numero |
|---|---|---|
| December 18th - 2003 | | 129 |
| December 19th - 2003 | | 426 |
| December 20th - 2003 | | 411 |
| December 21st - 2003 | | 347 |
| December 22nd - 2003 | | 532 |
| December 23rd - 2003 | | 88 |
| | Totale | 1933 |

# 4_ Conclusions

According to our initial hypothesis, we have been able to confirm that there is a substantial similarity among the groups' collaboration. They treated almost the same topics and, what is more important, with the same kind of difficulties and cognitive misunderstanding. This is what can be gleaned from the great amount of meta messages in the forum.

What could be the reason for this striking similarity? Of course the forum's open structure, allowing each student to take part in his group but also to lurk around in others, caused a non-secondary side effect: the fact that each group, apart from one, successfully reached the task deadlines. Collaboration in this on line community presents a negotiating aspect, which refers to the existence of many groups in the same virtual space. This negotiation, as we noticed in this analysis, brings about a certain similarity with the participative process but has also a positive effect on the final result of the community as a whole.

If we think about the traditional learning methods in classrooms, we can see that one of the principles of class work is the separation between individuals whilst doing their task. Each students has to cope with his own work by himself. That's one of the main rules of the traditional learning methods in school way of learning. Of course we could also have group work; tasks which pupils could accomplish with others in the classroom or outside.

In a virtual space we have, as a unique feature, the immediate, simultaneous, synchronous, visibility of other people's work. Students can get a real-time idea of all the class work and negotiate their own task with others.

Perhaps a more extensive survey could give more insightful results relating to these issues but the Communico experience certainly gives some very interesting hints with regards to a new model of class work.

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