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Questioning the relationship between Computers and Power in School environments
An Ethnographic Approach

Abstract

This paper reflects the preliminary findings of the observation carried out in a primary and a secondary school in Italy, in the framework of SOCRATES-MAILBOX project, Some insights are also provided by a shorter observation of a primary and a secondary school in Belgium. The paper was presented at the Open Classroom Conference in Crete, September 1997.

The focus is on one of the crucial questions implied by the integration of Information and Communication Technologies in school environments: the question of power relations and of the legitimation modes of Authority. Are ICT upsetting consolidated power hierarchies between the actors involved? Or do they simply provide us with a privileged entry point to observe the structuring of the relationship to Authority within a determined school setting, in a determined educational system, in a determined cultural context? The paper highlights some analytical leads for investigation.

Authority and power in school: ICT as a factor of change, or a breach through which observing change?

School is first and foremost an agency of socialisation, a place of implicit learning, a space for the development of social skills[1]. Ultimately, a place in which power relations are instituted and in which the legitimation modes of Authority[2] are conveyed through implicit injunctions.

What happens when information communication technologies (ICT) are introduced into such an environment? Can we say there is an impact of such new modes of communication on the distribution of power between the various actors? Is the dynamics of relations modified by the progressive integration of new communication technologies into pedagogical practices and organisational structures? And if so, how?

Should we then rather consider that ICT provide us with a privileged entry point to observe the structuring of the relationship to Authority within a determined school setting, in a determined educational system reflecting a determined cultural context? This final question is kept as the standing point.

In this paper, I would like to approach a specific aspect of school socialisation: how, in a determined cultural context, do children and teachers implicitly restructure the relationship to Authority? How do children acquire and comply to conventions? How do they conform to explicit and implicit rules, the apparent and implicit knowledge they ought to master in order to

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1 Bourdieu-Passeron, 1964; Bourdieu-Passeron, 1970; Karabel-Halsey, eds., 1977; Dubar, 1991; Apple, 1995; Vasquez Bronfman-Martinez, 1996.

2 Authority is here taken in its original sense, meaning the source of precepts and truths to which one conforms, on the basis of the simple aknowledgement of the nature of the source. The obedience does not derive from the perception of the sanctionatory system, which might or might not be associated. To exemplify, one foundation to the Auctoritas could be the principle of the "ipse dixit" (it is him who said it and therefore it is true).

feel and to be recognised as members of the school community? And what do communication technologies imply in such a frame of reference?

Through the observation and analysis of the communication processes within specific school contexts, I will ultimately try to highlight the processes of power structuring and the modes of legitimation of the *locus* of Authority.

A matter of cuisine

The introduction of technology in school practices is not in itself the causal factor of change. The introduction of ICT does oblige a re-thinking of pedagogical activities, organisational modes and roles within a classroom. It is, in a way, a perturbing factor of well-established and almost unquestionable practices. It is also a factor of destabilisation of the whole architecture of the school system. A Troy horse. But it is no quick revolution with guaranteed happy ending.

Let's leave the usual formulas (ICT = democracy, ICT = transparency, ICT = access) to the marketing campaign. But let's not confuse products: ICT are not the magic powder you dissolve into still water to make instant bubbling water. It is no chemical reaction. The integration of ICT in school is a matter of cuisine, where no recipe book is available. Try and retry, change the ingredients, maybe cook them... It needs time and devotion. And passion. And pleasure. And faith, to stand the inevitable failures. It is a creative act, and as such, it opens a breach, a breach to observe the organisational patterns within a determined school setting. Indirectly, within a determined educational system... and within a determined cultural context. It is a breach through which one can observe new dynamics of relationship among the actors involved: children and teachers, children among themselves, and teachers among themselves.

I believe that the ways in which teachers and children "invent" their uses of technology, the ways in which they make them their own, reflect the ways the political culture of a society, mediated by the school system, is maintained and changed. They do contribute to constitute it, as well. But that does not happen independently from the extent allowed by the system. That is why the question of power relations and of the legitimation of the locus of Authority are so central in my reflection.

European research on communication technologies in education have suffered too long from technology- and market-oriented approaches. Such approaches certainly do not adequately consider the pedagogical dimension, even less so the social, cultural, and anthropological dimensions of ICT in education. No wonder they are constantly baffled by the reality they pretend to describe.

The observation sites and focuses

I essentially base the considerations developed here on the observation carried out by myself in Italy and Belgium in the framework of the Mailbox project. In the four sites, the observation focused in particular on the following aspects:

- interpersonal communication processes and group dynamics,
- the organisation of communication in the classroom
- the differentiation among the pupils,
- behaviour reinforcements developed by the group or the teacher.

The activities observed involving the use of e-mail

A quick panorama of the activities developed in each school is necessary as a premise to the first analytical leads I am going to present on the questions of power and Authority.

In the Italian primary school, a wide range of activities involving ICT are consolidated everyday practices, integrated in the pedagogical curriculum. These are:

- Correspondence with the schools in Manchester (UK) and Udine (It): A correspondence is organised with a class in Manchester, in which a former teacher of the school in Panico is now teaching Italian. Children are free to write in Italian to their own pen pal on whatever subject they wish. The letters they receive are in English. Only if they feel confident enough, they can write in English, with the help of the teacher. A correspondence is also undergoing with a school in Udine. The e-mail address is collective for the whole school, but the correspondence is individual.

- The Turtle: the children read together with the English teacher some stories in English, some of which are received via e-mail from their correspondents in the UK. They decipher them, discuss them and then re-write them in Italian, with the help of the teacher of Italian. In parallel, they also prepare a realisation of the story, building up a small cardboard "theatre", with the main characters of the story, in card board. Then, they perform the story in front of the teacher of sciences, animating the theatre characters, with the help of a narrator, chosen among the children. Finally, the teacher ask them to draw the main characters on a millimetred paper, before transferring the drawing the computer, using Logowriter.

- The exchange of fairy tales with a high school in Bologna: a high school in Bologna sends via e-mail some fairy tales written by 15-16 years old students to the school in Panico. The children read the stories with the Italian teacher and then illustrate them, by hand or on computer, using Logowriter.

- The "Fantasia" conference (or: the story "by several hands"): this is an inter-schools activity. A school starts a contest asking the other schools on the Kidslink network to make up an acrostic from the word "Fantasia". Then, one is chosen as the winner and on its basis, all the schools develop a story and conclude it. The best one is chosen by the school which started the process. When the contest is finished, another school takes the lead and starts a new story.

- The Journal: Seven groups in seven different schools participate to this project. Each group is in charge of one page of the journal, with a different theme, exchanged via e-mail. One group is in charge of the final layout of the journal. Concerning this responsibility, there is a rotation issue by issue.

In the Italian secondary schools, I observed the following activities developed in the computer lab during regular class hours :

- A Comenius project, involving one class, in collaboration with a Portuguese, a Dutch and two Greek classes. The project focuses on the following subject: "Our Country in the 20th century". Conceived as an interdisciplinary work, it entails research and production of texts in French, accompanied by illustrations, on themes as environmental protection, health (AIDS and blood treatment), food habits and historical events. In particular, concerning this latter subject, the school is producing an hypertext on the First World War, which will be accessible through Internet.

- Fahrenheit, the setting up of a data base of books résumés and critiques, written autonomously by the pupils and students of the Kidslink network.

- "Lipogrammi", a linguistic exercise consisting in re-writing a short text without using a determined consonant. The original text is launched in the Kidslink network by the temporarily leading school, which will declare the winner among all participants and publish the results.

- "Esercizi di stile", a linguistic exercise consisting in re-writing a text sent by the temporarily leading school to all the schools of the Kidslink network, following one of the proposed style (such as ironic, dramatic, rap, juridical, poetic, graphical, "footballistic", journalistic, cinematographic etc. etc.). As in the former case of Lipogrammi, the temporarily leading school will declare the winner among all the participating texts and the classification is then made public on the network.

- Classe Globale Francophone, entailing a spontaneous participation to the thematic conferences that are periodically launched on the CGF network.

In the Belgian primary school, not yet provided with an Internet link[3], a normal class day has been observed. Children were working in sub-groups on different projects and activities, some of them involving the use of computers (research of information in the CD-Rom encyclopaedia).

In the Belgian secondary school, I observed an e-mail exchange in the optional class of Italian, with the "Guido Reni" school in Bologna. The computer being in a special room, the students were answering to the messages received writing on paper.

First analytical results

From our observations, we can derive some first analytical leads, concerning the locus of Authority, and consequently affecting power relationships.

1. The *locus* of Authority: who holds the knowledge?

There seems to be a fragmentation of the main *locus* of Authority (formerly the teacher, as incarnation of the institution) and a multiplication in several *loci* scattered inside and outside the class.

It was particularly evident that in some circumstances, some of the children were called to play the role of the teacher, because they were more competent than the teacher in dealing with computers. Their competence was recognised by the different teachers, who could accept more or less easily to hinder their once unquestionable monopoly of "knowledge dispenser". The more participative attitude is asked to children, the more active is the role of production of knowledge on their part and consequently the acknowledgement of their status as depository of knowledge. Hierarchical distances are shortened. Furthermore, they may be turned upside down and their legitimacy might not reside anymore in the institutional investiture.

All this is made possible only if a system is flexible enough to put the learner at its core. The presence of a computer in a class changes nothing in itself. The reorganisation of the legitimate depositories of knowledge takes place only if the teachers do not feel threatened by their apparent loss of power. It requires a system based on a principle of collective power, as opposed to a system of vertical domination. A system willing to encourage the autonomisation of children as opposed to their infantilisation.

Thinking of the uses that are connected to the introduction of ICT in a class may stimulate teachers to question as well the class organisation modes and their implications. It may stimulate them to elaborate and test new modes. It may lead them to question their status and their role. It finally may lead them to take into account the possibility of losing their monopoly and accept not to be the only source of knowledge in the class microcosm.

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3 The starting of Internet activities is scheduled for next September.

But if the system is not mature for that, it should not worry: the presence of a computer in the class is no more threatening than the presence of an encyclopaedia, or of a typing machine.

2. Authority and territory

Strictly linked to the former aspect is the new configuration of the territory. In some of the classes we observed, the teacher seemed to be no more the only "Lord" in his/her kingdom. The lesson taking place in the Lab, the territory is often shared with the "technical expert" (or someone covering unofficially this function), from whom the other teacher generally totally depends, concerning the operational aspects of technology. Not only that: the person, precisely because of his technological competence, might be very charismatic in the eyes of the children.

The lab (or in some cases, the classroom itself when it is the only one equipped with computers) is an open territory: anyone can come in without knocking at the door, anyone can talk loudly, no child is sanctioned because he/she leaves the assigned territory of his/her seat, to visit that of a schoolmate. Other teachers may interfere, trespass what were once the sacred borders of the others' dominion and "state new laws". This is more true when an interdisciplinary approach is adopted in the development of learning activities. In addition, other children, becoming teachers to the teacher, may even be called outside their own territory to enter a new one (the lab), to cover this role. Once more, this requires a system in which teachers are ready to lose what was once an unquestionable prerogative: the absolute dominion of the class territory (in the time they were allocated).

3. Authority and co-operative learning

The configuration of the legitimate communication flows in the classroom seems no more to be bi-directional, going from the teacher to the children and from each child to the teacher. Micro-groups are created around problem-solving and are encouraged to co-operate to seek common solutions.

Sometimes, this might be also in consequence of the penury of machines. But it has several implications as far as the children's assessment is concerned. Their performance is no more assessed as a *solo*: The way children relate to one another is (more or less formally) evaluated, as well as their ability to tackle the solution of a problem within a group, and in relation to that group.

I observed that the anxiety of the performance can be considerably diminished and that this seems to encourage the expression of the children's creativity. In some cases, it led to the revelation of unsuspected talents. Working in group does not mean to blur the individuality of each child. On the contrary, it might be a stimulation for each one to seek for his/her own role, to highlight his/her own specific competencies and to have them acknowledged by the group (and by the teacher). But this process needs to be managed carefully by the teacher, who is called to defend the delicate balances which are generated in the process and firmly discourage any attempt of domination or stigmatisation of what might be defined as a sign of inferiority.

Collective work might also demand from the teacher a higher tolerance of a moving children and noise in the classroom. It means also that the traditional rules of word-taking might have to be questioned and abandoned. Sometimes, to minimise the noise and chaos which might derive from the exchanges, emphasis is rather placed on the children's self-organisation and self-control.

4. Authority and implicit learning

"Be silent", "Do not move!", "Learn by heart", "Do what I tell you to do", "Do not cheat!", "Do not copy from your neighbour!", "Talk only when you are allowed to!": all these injunctions (which most of us are very familiar with) imply that children must learn a certain behaviour, in order to be accepted as members of the school community. These injunctions also and foremost implied the assertion of certain values and power configurations.

In some of the schools I observed, those injunctions seem to have been replaced by a tacit encouragement to the children to self-regulate their participation in the classroom, their movements in space, their management of time.

Children are asked to perform such tasks in relation to their classroom community (as opposed to a formal rule). They are asked to have the perception of the needs of the group, in which they are placed, and not to obey because the one who embodies the institutional Authority is ordering them to do it.

5. Authority and time

Time seems no more a unique, linear flow dictated by the school bell: especially in the secondary school, the ancient hours of 55 minutes seems gone forever, in spite of the persisting bell punctuation. The voice and rhythm imparted to the lessons by the teacher seem no longer to dictate the unique partition of time in the classroom.

Time is fragmented, extended, compressed in the different niches of the classroom. It is full and quick for the children writing at the computer answering their correspondents; hollow and slow for the child sitting in a corner and not having received any message.

The management of time becomes less and less a police issue and more and more a challenge to the teacher's and children's own creativity.

Horizon

The appropriation modes of technology were considerably different in the four schools where I have been. Technology and its uses seem actually to reflect the potential allowed by the system itself (the educational system and that of the specific school), rather than being a direct determinant of new balances in power relationships. But in all schools, ICT obliged a re-thinking of pedagogical practices and organisational modes of implementation: and as such, it can be considered an element in the dynamics of change that schools are undergoing.

The first analytical leads illustrated here need to be expanded and articulated with the comparative observation data resulting from the observation of other practices. Concerning the specific subject of this paper, the research will ultimately lead to gain an insight of how children learn how to structure their relationship to Authority and represent power relations in their respective school systems, as they are affected by technological changes.

We will seek to demonstrate that the ways in which teachers and children "invent" their uses of technology, the ways in which they make them their own, both reflect and constitute the ways the political culture of a society is maintained and changed. Through the breach opened by the introduction of technology in school practices, the comparative analysis will contribute to open a perspective on the cultural differences underlying the processes of Authority legitimation and power representation.

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