

Education and Citizenship in the Technological Society

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1. The technological society

Information and Communication Technologies (ICT) – jointly with the new biotechnologies and with the new medical technologies as well as the new technologies of genetics engineering, among others not so spoken, but also very important – are the material basis of the development of our contemporary society, a society in which we are becoming digital (Negroponte, 1996). New technology is, in part, responsible for the complexity of our global world (Morin, 1998). Some technology merely modifies, other deeply transforms our social, cultural and political lives (Graham, 1999), this last one being which we must focus our attention.

Actually technology assumes relevance, not only because it influences significantly the construction of new ways of life and new economic, social and cultural approaches, but because it engenders accumulation and, in a certain sense, it offers the satisfaction of human desires (Fukuyama, 1992).

The most positive aspects of the new technologies, as they symbolize progress, are those that attract and enchant more people and institutions, as they afford the opportunity for a better living of contemporaneity and the chance to experience a very different world from any previous one.

But, in our society, technologies are not only associated with the most positive economical, social, cultural and political aspects concerning the empowerment they can promote. They are also related to the most negative aspects (Postman, 1994; Virilio, 2000; Ramonet, 1999, 2000), as technologies can also foster subordination and manipulation.

Since technologies cannot only bring benefits but also cause disadvantages, it goes on being very easy to identify technophilic and technophobic visions (Graham, 1999) in the whole society and particularly in the field of education (Papert, 1997). But what is important is to encourage an objective and wise attitude about its inclusion in our lives (at home, at work, at school or everywhere else), considering its constructive aspects and its

negative ones. As a matter of fact, it is not reasonable to ignore technologies. On the contrary, it is very important that everybody gets acquainted with them. Standing up against the inevitable digital era could convert us into citizens of a world that does not exist anymore, mainly when people, companies, countries, because of technology, are living in an increasingly global world (Ponte, 1997; Patrocínio, 2001).

2. ICT projects in education

In these last decades (mainly since the early eighties) we have been assisting to the development of a lot of projects aiming at the educational use of ICT in education (within the school and in other contexts), in North America, Australia and Europe, in short, mainly in the western world. But one must ask if, in those projects, all the actors have been/are aware of all the dimensions and implications of ICT hitherto?

Of course the programmes and projects that have been carried out, at least the most significant ones, were important as a way of providing schools and other training and education institutions with computers and other associated technological devices and also enabling connections to the Internet. Some of these projects and programmes have also been important to create experimental research environments on educational ICT purposes as well as on the assessment of the developed activities (Patrocínio, 2001). That has been an important contribution to build a technological and digital based learning: *e-learning*. *E-learning* also receives other names such as *web based learning* or *online learning*. They all refer to Internet based learning and several approaches can be identified: some related to distance learning or teaching, what can happen at any time no matter where; others related to both face to face and distance learning. This last approach is the one that is emerging with more possibilities in schools but a lot of research is still needed on the organization of these new learning environments and on its implications in learning and teaching (Patrocínio, 2001).

The projects and programmes that we are considering have been, most of the times, focused on teachers training and upon the performance of the use of the technological tools and have not created real digital environments in schools yet. As a matter of fact ICT are not seen as something radically new (Graham, 1999) but almost always as a mere novelty, used as a new tool for old purposes, even when they have enormous possibilities of personal and social transformations. So, more important than making more students and teachers acquainted with ICT and providing schools with more means, it goes on being necessary to build new senses on learning and training assuming that, when technologies are a part of the school environment, they become agents of modification and establish a

new scholar work, empowering self directed learning and new interactions within the class and with other virtual partners. This might be a recommendation for every curricula.

3. Relation between technology, education and citizenship

From this point of view, the effort to improve the relation between technology, education and citizenship increases in importance and it must be connected with the research on web based learning communities, these engaging pupils and teachers of one or several schools and national or/and international partners. It goes on being essential to search for the pedagogical gains that can emerge both from the jointed situated and shared learning in the web. One can also identify as important the need to study serendipity and of a nomad learning (Papert, 1997). Can Internet mean anarchy in education? Attention must also be paid to the relevance of the use of the net on the construction of inter and multiculturalism, considering social tolerance, the limits of social tolerance (Rosa, 2000) and social reconnaissance (Bartolomé Pina, 2000) as essential realms of citizenship. Can it bring new inputs to the development of democracy or even new democratic forms?

In fact, it is relevant that one considers that cyberculture and cyberculture related to education cannot be seen and understood in itself as an output of the use of technological means but mainly in correlation with a new state of civilization.

We must consider the role of ICT as powerful means of work and production, as powerful means of granting information, as powerful means of communication, but always as more than mere novel tools. One must make to accept they can empower each person by becoming an extension of human memory and action and means of support in terms of human autonomy and self fulfilment. They can be seen as a support of creativity as well as a means of development of imagination and critical thinking.

So technologies cannot be missing in any contemporary life project. They must contribute to develop a sense of social belonging and social commitment in each citizen. That is why each person must develop technological skills as well as others related to them (learning foreign languages, learning how to work within a group or within a network, etc.) at school, at work or in every training centre in a lifelong learning perspective.

The complexity brought by technologies demands a new person and, consequently, a new educational paradigm as one needs to face complexity, antipositivism and antideterminism (Ambrósio, 1998), an education that can be called “digital”, settling cognitive competences, jointly with ethical and relationship abilities.

The possibilities of human development live just in the inmost of each person and that is the reason why nowadays it is more important than ever to develop an ethic and critical conscience and an affective dimension of life, as we already are and will progressively become more effective cyberworkers, cyberstudents, cyberconsumers, cyberbuyers, cyberpatients and even cyberlovers (Magalhães, 1996). This means we are becoming cybercitizens. So, we also need to learn how to deal with the fact that we can also be cyberinfluenced, cybercontrolled and cybermanipulated (Ramonet, 1999, 2000). Internet and other technological means are very important information and communication resources. They can be compared with huge books or encyclopedias, let us call them a *metamedium*. Are we researching the best ways of making it easier to get and select information, as there is a boom of information in the Internet and in every broadcasting networks? Concerning communication are we aware of the power of the e-mail and of the web page? In this context technologies and their correct uses are particularly relevant, since parents, educators, teachers, politicians and every citizen in general aim at discussing about “learning to be” and “learning to become” (Cabral, 1999) in the beginning of the third millenium.

4. Globalisation and citizenship

Globalization has increased/increases a lot because of ICT: distances have become shorter as we are an on-line society (time and space are getting a different significance); people and goods can circulate very rapidly; public and private dimensions of life are beginning to interpenetrate.

There is no opposition between globalisation and citizenship. What has become urgent is the practice of a new citizenship that cannot be limited to the national or regional frontiers as we are beginning to live a more and more global condition. This points to a new understanding of the political being since the democratic perspectives must be put in the frame of the new cultural approaches emerging from the digital info-communicational networks. The expansion of broadcasting possibilities and of the Internet cannot be seen out of the context of a worldwide convivial space, which is threatened by the economic lobbying and competition. Otherwise the civic duty of information and communication, can be underestimated mainly when we assist to the development of instantaneousness and mass communication against truth (Ramonet, 2000). So each person must be aware of it and learn how to read the media.

Considering that distances have become virtually shorter due to “telecommunications” we have been assisting to new possibilities in what concerns the fight against the geographical inland and island isolation and isolation in general, including loneliness (Papert, 1997) and also the fight against poverty. These, among others, are very important facts of our society, where we assist to very different levels of economic growth and development as well as to a certain deprivation of human attributes and also to the transformation of the traditional familiar cohesion, which has become weaker (Giddens, 2000).

In spite of the digital revolution and its possibilities for a better world we go on living in a very turbulent world where a lot of social problems resulting from old ways of economic organization, and unemployment and poverty, still remain far to be solved or reduced.

In fact, mainly in those societies where new technologies did not establish, we can identify, most of the times, economic and cultural poverty. Confronted with these facts each citizen cannot remain untroubled (straight or indirectly they also affect him/her). So, each one must correspond to the challenge of a positive change rather than getting in the opposition to the deepen conflicts.

In this area, and in the context of a communicational revolution, we feel that we can state that technologies also imply a civic and involved attitude, because they can promote new ways of association and new forms of power and participation. Internet and radios and TV have been/are being means of facilitating the participation of citizens in forums, debates, discussions, newsgroups, etc. This must be taken as very important in any educational project.

The digital revolution will not have a serious impact on everyday life unless a revolution of intelligence (Nicolescu, 2000) is accomplished, a revolution capable of keeping together the technological development and human dignity, as well as the environmental preservation and protection (Pintasilgo, 1998) sustained by a permanent assessment of the risks associated with technologies.

In the society in which we are living nowadays education based on economicism has to become different by giving each person the possibility of understanding and living his/her world and the opportunity of developing skills of debate, participation, and inconformity with sufficiency (Rosa, 2000).

5. Conclusion, recommendations and new lines of debate

The knowledge dimensions of what we can call a global digital education are multiple: scientific, digital, aesthetic, ethical, environmental, inter and multicultural. All of them are equally important and must be seen in a transdisciplinary approach and must be valued in flexible curriculum designs in which contexts and projects of learning must be as important as contents, in order to empower reflexive citizens, considering citizenship from an ontological point of view (Mouffe, 1996; Rosa, 2000). This approach means the construction of the sense of one's personal living in a society that can generate the feeling of belonging (not only the feeling of identity) and the construction of a sense of participation (even before the evocation of the rights of participation) as well as the construction of a sense of emancipation based upon the comprehension of the human unaccomplishment (Freire, 1997).

In what concerns the axiological dimensions of the global education, the cibernetic space/time is a space of human choice, and making choices always requires knowledge. It also requires that we are able to predict the consequences of the applications of that knowledge. This is the reason why the ethical principles assume great importance. In fact, technologies are not neutral: they are designed by humans and they are used by humans. Then, one must educate for the rational use of technology, as prevention is better than cure.

Concerning the relationship realm of the global education, conviviality in the technological society, and mainly that one taken in the Internet, requires *netiquete* (polite behaviour) but, more than that, ethical rules and personal inter and multicultural skills.

Another aspect that must be taken into consideration is the role of the teacher in this global digital education: we see someone that has to become a *human site* jointly with all the other sites and someone who needs to become a peer as far as learning is concerned (Patrocínio, 2001). This must be understood as an opportunity to build new relationships between teachers and pupils with different school methodologies and revolutionary organization of spaces (open classes, open libraries, open labs), as teachers need to be capable of dealing with diversity against their practices traditionally connected with uniformity and impersonality.

Thinking or rethinking educational projects in a personal, local, regional, national or international scale and on a comprehensive approach to the contemporary society will only have relevance if it considers a TEC (Technology-Education-Citizenship) based approach, defining the pupil as the central concern and valuing his/her education based on new cognitive, axiological and relational assumptions.

Nowadays, this is the approach that must be taken in consideration when designing school curricula or teachers training/education programmes in Europe and nearly all around the world. These concepts and the links between these concepts seem to be the necessary key concepts, the new categories (in the sense of Foucault) to be in the centre of the further social, pedagogical and philosophical debate of every project concerning the world of education.

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