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Globalisation & Technology: educational challenges

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Nowadays we are witnessing globalisation processes that converge to universal values and competencies also due to a fast and intense technologic development. Nevertheless, globalisation and technology are contradictory processes, of conflict between states, social groups and individuals in the sense that they can be agents of development but also of social exclusion. According to this, education plays a major role in the research for alternatives and in the democratisation of the Information and Communication Technologies (ICT).

Therefore, school must make an intentional effort in the sense of promoting and facilitating the access to technologic media, as technology may even permit a balanced, fair and democratic development.

Yet, the social impact of the technological improvements can only be positive with the necessary human resources, namely teachers, prepared to use them as means to foster permanent innovation in the educational process. This may correspond to the needs mentioned above, thus leading to new changes.

In this context, the use of ICT in active and strongly participated learning environments, may contribute to the education of intellectually autonomous individuals with the ability to teach them, that is, being able to determine their apprenticeship throughout their lives from the point of view of citizenship.

Particularly in telecommunications, ICT allow the creation of virtual learning and working environments where there is actual interaction and communication among every intervenient, eliminating barriers of time and space with competitive advantages to the citizen.

In this presentation we shall make a reflection about the contribution of Education and ICT to foster counter-hegemonic globalisation and to give visibility to childhood through a shared and participated relationship between all the actors of educational community.

Keywords globalisation, education, technology, children

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The last 20 years may be characterized by their rapid and complex changes. We may even say are witnessing a deep transformation of the global system. The changes are so quick and unpredictable that it becomes impossible to foresee the events and their answers. We only know that we shall have to reinvent other routes because the ones that exist nowadays cannot answer the problems of contemporary societies. This transformation is partly due to the massive development of the Information and Communication Technologies (ICT). However, this massive influence hasn't reached all individuals or all countries, so it's realistic to talk about *infoexcluded* [1]. According to Castells, nowadays we live in an *information culture* and networks are the *new social morphology in our societies* [2]. Technology penetrated in more and more areas of social life and naturally it reached the schools. That is why the discussion about the role of technologies today, isn't in our opinion so much about the dichotomy in favour or against the ICT, but about the redefinition of their cultural, social, political and economical meaning. As teachers, we must also think of ICT not only as strategy for motivation in the learning process nor as sheer source of information, but as tools for the cognitive and social development.

One of the goals of education is to bring up free and critical citizens so that they will be able to actively participate in the society they live in. To accomplish it it's essential that children acquire from an early age, competencies that were underestimated for a long time in Portuguese education system, such as civic, intercultural and technologic education. This will only be achieved by means of an active role in their learning and training. Only this way can it be possible to develop a more plural and active sense of citizenship, through the recognition of the Other, whether it happens in a physical context or in

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cyberspace “this invisible arena where humans are connected by electronic technology and not by geographic neighbourhood” [3].

Children reveal great capacities and competencies in the use of technologies, namely with Internet [4,5,6] which make some authors defend the existence of a *Techno-Childhood* [7]. When they begin their compulsory education, many children can already use the computer, browse the Internet and explore games and several other types of software. Buckingham defends that the “very significance of childhood in societies nowadays is created and defined through the interactions the children have with electronic media” [8], despite that this isn’t the only factor to explain the still undergoing change of paradigm, according to the way childhood is put in perspective. The author claims also that “children interpret and ‘reconstruct’ global cultures through intermediate filters of local experiences and significances”, electronic media representing a more and more important role in the “definition of the cultural experiences of children of our time” [9]. This perspective opposes to some of the theories and voices that, on one side, regard children as unable and incompetent human beings; on the other side, they underestimate the educational interest of ICT [10,11,12,13]. Some authors claim that technology shall bring more opportunities of success in the future, and so their access to those technologies must be encouraged; others defend the opposite, warning for the perils of the new technologies - *technofobia*- [14] particularly for the change they will cause in children’s social worlds. Ponte, one of the pioneer users of ICT in Education in Portugal, states that “[computer] presents a set of new challenges to everybody intervening in the educational process. It can either be an instrument of liberation, power, development and innovation, or a tedious, massifying and oppressive object, ... experiences ... clearly show that there’s a lot to expect from this educational tool” [15]. So, it is not enough being able to use he technologies because, on their own, they have little effect on the success of learning and they don’t cause nor command significant changes [16]. The problem lies in *how* they should be integrated in educational environments in order to develop children’s cognitive, social and cultural competencies, which may allow them to deal with the permanently changing technological tools as well as with the information explosion it causes.

Nowadays technology works as an *extension* of the child, providing her with autonomy [17] which can be the first step into the construction of knowledge, but it doesn’t guarantee that actually learning occurs. This kind of knowledge often worries the adults, but they cannot ignore it. “Children are much more sophisticated than we think and it is wrong not to try them with constant challenge” [18]. This challenge concerns all the educational agents but the teacher has a major responsibility promoting and managing the appropriate environments. It’s about “understanding that technologies can offer the transition from a curricular model based on information repetition into a model based on knowledge building, open to social and cultural contexts, to students’ diversity, to their knowledge, experiences and interests” [19] So, there will be a shared responsibility between children, parents and teachers, which means a proactive attitude, that is, an attitude which goes far beyond the functional use of the computer, focusing on the implications of ICT in their different dimensions mentioned before [20]. Teachers and children must work together exploring the ways ICT can be used to improve the teaching and learning process. That’s the only way to contribute to the reinvention of school [21], a place where children’s rights are guaranteed and promoted, namely the right to be heard and to participate (Convention of Children’s Rights), and to the creation of empowered, democratic and plural learning environments [22]. In other words, a new paradigm urges, “a motivating and mobilizing one” [23], both for the children and to the teachers, which regards learning as a continuous, reflexive and (co-) constructed process.

If an Educational System aims at connecting as much as possible school to real life, and if everyday life is full of references to the ICT universe, particularly to the Internet, School must grant their students the contact with that fascinating and complex universe. It is fascinating because it permits the access to information from throughout the world, and complex because as Internet is a web made of thousands of computer networks that supply the system with the greatest variety of document formats, ranging from the traditional book to databases, maps, photos, sound and video clips, the result is a “ a huge and unorganised amount of tools to access information and to easily communicate” [24]. For any topic one can quickly find a great variety of sources reflecting various perspectives and different depths. For that reason, in a world that is more and more *dominated* by the Internet, it isn’t enough that the children know how to get information. In order to obtain satisfactory results, they must build, discuss and if necessary refine, a search strategy.

This competency demands adult support. Once the information is obtained, it becomes necessary to make its selection according to the matter in study, and then summarize it and organize it in a coherent way. These tasks require a lot of training and require teacher guidance, due to their big cognitive demand, in terms of critical analyses and synthesis. This is the only way children may, from their early age, develop the capacity to transform scattered information they find in the Internet, into knowledge. It is a transversal competency more and more required to our personal, social and academic life.

Summing up, we may state that the massification caused by the technologies has granted the opening to new fields of knowledge, to new possibilities and to new forms of rationality. Nevertheless and according to Santos, knowledge produced by technology must be transformed into wisdom. In this author's opinion, science and technology increased our capacity to perform in an unprecedented way but, on the other hand, it has created a growing asymmetry between acting and foreseeing the consequences of action. So, he advises us to be prudent as to our scientific adventures, that prudence consisting on recognising and controlling insecurity [25]. This way, and focusing our arguments on the relation between the ICT, the children and the adults/teachers, we consider that: 1) it isn't any more about resisting the ICT, since we live in the information era, with knowledge exploding amazingly. We need the information to get knowledge and knowledge to obtain wisdom [26]; 2) school plays an essential role in children training in order to work and live in a technologic society; 3) teachers must have the competencies to use the ICT in rich communication contexts. "Teachers' role is essential in the preparation of environments which provide teaching and learning opportunities and make the most of the power of technologies" [27]; 4) considering that children are social actors, active and competent subjects, their opinion and experience have to be regarded when we get to the problem of globalisation, ICT and education. It means, after all, to bring children and their social worlds from the periphery to the centre of the discussion about matters that concern them, which in this case are: globalisation, education and the ICT.

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