Challenges for Education in the Information Society

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INTRODUCTION

This analysis will focus on the key changes and challenges, motivated by living in a period characterized by enormous transformations, essentially caused by technological innovations based on personal computers, networks, multimedia, Internet, social media and web 2.0. In sum, nowadays we live in a society based in information flows, described as an information society (IS), as a result of an information technology (IT) revolution that has motivated the kind of world and society we live in.

The aim of the research and explanation will be directed to the education and teaching sector.

We will try to look at the implications of the IT revolution and consequent IS taking place, in a particular range of issues like: technological, spatial, cultural, economic, occupational, and political. To do so, the main source will be other experts work, such as Webster, Lyotard, Castells, Giddens, Lyon, Tapscott, Postman, Bell, Tourraine, among others.

We will begin by situating the problem, trying to see what is a IS in fact, and some difficulties of evaluate a society in those terms. Then, we move to the tentative of explanation of the transformations and key points for the educational and teaching sector. This will end with some clues for a future analysis from this major evolution in the field of knowledge.

Technology is not enough for a positive construct and mind change and can be negative if the persons we are educating for a better future are only focused on it, disregarding other subjects and its knowledge, like History, Philosophy, Ethics, Art, and Politics, needed to understand the social conditions we have today. Nevertheless, technology can be an exceptional tool to support education, if properly used by well prepared teachers.

Let's begin, "ridding the waves of change" (Tom Peters) in the world of the so called IS.

BACKGROUND

After World War II, Claude Shannon formulated "The Mathematical Theory of Communication" (1948), better known by "Theory of Information" (Gleick, 2011). In the same epoch two almost simultaneous inventions, the transistor and the digital computer came to reveal themselves with an enormous revolutionary potential when the social effects of their application, producing new goods and services were discovered, especially in the production and distribution of a new immaterial good and service: the information (Castells, 2001). Information, opposite to material goods, is infinitely expandable, doesn't waste itself (meaning that we can give an information without losing it, which may allow us to give it to several people), and once created difficult to vanish (although its economical value may decrease). It's easy to transport and distribute and the costs of keeping it in data warehouses is lesser every day. The speed and easiness in processing and transporting information electronically, it's almost instantaneous ability in feed itself, start to subvert the traditional ways of labor division, fragmentation, expertise and centralization of the human experience and its sociological configuration (Cleveland, 1985). Nowadays, we tend to call IS to the type of the constraints we move in, sociologically interpreted. An IS, tend to describe a society no longer based in the production of material goods, but in the production of knowledge.

A huge transformation is taking place. We are moving towards a society that is no longer dependant in a massive industrialization or agriculture. This notion is interconnected with the birth of the so called IT, characterized by computers and electronic means of producing and transmitting information at the speed of light through a network of other technological apparatus. Two authors, one in the United States of America and other in France, having a initial description for the transformation noted called it "Post-industrial society"

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(Bell, 1973; Tourraine, 1974), meaning that we were moving to something beyond the industrial development that we were used to know. They often talk about the knowledge and information based transformation of the world economy we were living in, with flux and flows of information gaining advantage to the exchange of goods.

THE INFORMATION SOCIETY

We are experiencing some important changes in our era, and the truth is that information plays an important role in it. Information became the base of the production system instead of the materials produced in factories and that is changing our way of life at all levels. It's the beginning of the production of information and knowledge in massive proportions with financial and economic interests, opening the way to a new type of worker: the knowledge worker. Highly skilled, available to whom pays more for its knowledge, and with the capability of working in any part of the world through electronic means, not tied by geographical constraints (Drucker, 2000). All we do in a daily base is supported by this new means of technology support, making our life easier in a way, but making us dependent of it in another.

Depending entirely on IT, makes us wonder what will happen to the society we have if one day something crashes, letting us again depending on each other to do what we do not know how it is done anymore. We are used now to a certain type of life, with our compromises controlled by electronic means, our work being done the same way, our children entertained and being instructed by social media and videogames, surfing the net, chatting online, our communications and transactions also controlled by electronic means, and our safety depending on satellites watching the moves of our enemies and the global temperature raising.

Another problem relates to the surveillance our life is subjected. Nowadays we don't have only Orwell's 1984 "Big Brother" watching us (Lyon, 1988), but also the "Little Sisters" (Castells, 2001), with all kinds of organizations obtaining information about individuals, using our electronic track of credit cards, web sites visited, types of goods bought, going much more further in our privacy than Foucault (1977) have ever imagined in his panoptical observation. We don't even know who has information about us, earning money with our data habits and our private needs, developing an information market with our own private life (Bell, 1973; Castells, 2001; Castells et al., 1998).

INFORMATION SOCIETY KEY CHALLENGES TO EDUCATION AND TEACHING

Kids don't want to be teachers anymore. At least, they don't want to teach anything outside the IT range of disciplines. History, Philosophy, Arts and other areas not recognized by society and the labor market as being useful will be lost in a generation and all the centuries of accumulated classic knowledge will disappear[1]. We can't condemn them. In a world and society that underestimates and under appreciates the teachers, nobody wants to be a teacher. But be cautious, a world who doesn't respect the ones who teach their youngsters just can't be a good world.

Technological

The technological characteristic of the machinery is changing, like everything else in actual society. Machines of the information era are great information consumers. Ancient machines developed man physical power, now the machines develop intellectual power. For teachers, this is the best you can get: ways of develop students and teachers' cognitive ability are always welcome. The problem with the technological issue of the IS for education is that technological courses give better jobs and salary, are well recognized socially and promote a high standard of living in material terms. That means that a lot of knowledge is subverted because the actual world market places doesn't value that type of knowledge and because of that every year we lose a bit of past knowledge and centre all our efforts in new technology knowledge.

Robins and Webster (1987, pp. 146-148) conclude that "funds have been taken from the arts, humanities and social sciences and 'steered' towards the 'more relevant' science and technology courses."

This doesn't mean that it is not important for our students to study IT and obtain tools to compete in the labor market. IT can improve our students' skills, if