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## Citizenship Education in the Information Age and Educational Reform in Latin America

### Abstract

The intention of the present paper is to show that people have a series of educational needs in the era of information, so that they can become competent digital citizens. These educational needs are evident in the policies promoted by the United Nations Educational, Scientific and Cultural Organisation, which were well known to Latin American governments of the decades from the 1960s to the 1990s. Therefore, it is to be hoped that the educational reforms of 1990s have elements based on the principles of education that they advanced, which emphasises the preparation of subjects in the digital era, based on advances in information and communication technology, focusing on the teaching and learning of computer science.

Keywords: citizenship, education, information, educational reforms, IBI (Intergovernmental Bureau for Informatics)

### Introduction

Some explanation is needed of the idea of the information age. The explanation can take as its starting point the proposal of Hung (2009, p. 18), that present day society faces a technico-economic paradigm provided by the technological advance of computer science, telecommunications, and micro-technology, among others disciplines. These have given prominence to information and knowledge, and also given rise to a new social paradigm of society, defined by information and communication (Casassus, 1992, p. 4).

The change in the society has been so overwhelming that, at present, the most important companies in the world are in branch of computer science (Kroll & Miller, 2010, p. 7).

Hung's argument is complemented by the suggestion of Howkins et al. (1997, p. 22) who argue that the digital era corresponds to a new type of society in which human activity is transformed, affecting the way we communicate and conduct business. This change supports a tendency to treat all issues in terms of an economic approach (Castells, 1998, p. 14), where value does not reside in tangible things, but in the management and ownership of information. In addition, until the second half of the twentieth century, the majority of the population of the world lived in the

countryside (Ordorica, 2004, p. 15), which required a great amount of manpower in order to support human needs. But in the last quarter of a century this has changed dramatically, reversing the location of populations, with most people moving into cities, and fewer living in the rural areas (Ordorica, 2004, p. 16).

But the change of human beings from farmers to urban citizens has not been the end of the matter; it has radically changed our relationship with the media, and we are now, in words of Perez (2005, p. 7) “settler in the mass media”. The change to being citizens of the mass media in the digital society indicates a transformation of the human species. We are living the transformation from “homo sapiens to homo mediaticus” (Perez, 2005, p. 8). Characterized as a human of the digital era, who cannot think of himself or herself without a mobile phone and a screen to connect to the world, this produces rapid changes in the fashion, among inhabitants of virtual environments, steeped in consumption (Perez, 2005, p. 9).

### **Digital divide is accentuated**

Digital divide is accentuated in the 1980s, with great trends like neo-liberalism, globalisation, and the information society (Miñana & Rodriguez, 2002, p. 17), and the re-engineering of that same society brought about by technological development (Perez, 2005, p. 12). It is also a historical and current problem, as shown by the UNESCO digital divide (UNESCO, 2012).

In the 1970s, McLuhan had already introduced the idea of the classroom without walls, in the sense that the media had become an inexhaustible source of information, which previously had come from paper in school, and before that the church and medieval monasteries (McLuhan, 2009, p. 15).

The profound influence of the IBI (Intergovernmental Bureau for Informatics) is evident in the formulation of policies that have been adopted by Latin American countries associated with UNESCO (UNESCO, 1980, p. 5). For example, in the 1970s, the IBI financed and established two professional education centres of computer science, based in Madrid and Mexico City, which marked the beginning of that branch of study in Latin America.

### **Some Latin American countries**

Some Latin American countries are prominent in the activities of the IBI, as in the meeting on Computer Science, Development and Peace, held in Acapulco in 1981 and the meeting on Computer Science and Sovereignty held in the city of Cali in May 1984, convened by the then president of the Republic of Colombia, Belisario Betancourt and the director of the IBI, Bernasconi.

The motto of the meeting was:

*Computer science: a strategy for regional integration. The atmosphere of this meeting was dominated by the fact that the majority of the Latin American countries are passive receivers of computer science, acting as simple markets or users* (Carnota, 2008, p. 9).

Also there were at this meeting denunciations on the digital divide:

*Dependency implies domination. The computer science that could accelerate communication between the men, appears to be an instrument that moves towns apart from each other* (Carnota, 2008, p. 11).

Quite apart from the provision of grants, the IBI was well known to the authorities in Latin American in the years before the 1970s, in which great educational reforms were organized. The white and green books on the information society were published by the European Commission in this same decade in which attention was drawn to the changed surroundings and the rise of the *Information society* (IS) as it was described. An outstanding example of this increased awareness stands out from the Green Book:

*The importance of the information society (IS) is that it forces positive change, as emphasized in White Book of the Commission of 1993, Growth, competitiveness and employment* (European Commission, 1996, p. 16).

Starting from the information contained in the White Book, together with the subsequent report:

*Europe and the global information society, an important series of initiatives was established, with the complete endorsement of the European Council, to help form and promote the IS in Europe* (European Commission, 1996, p. 18).

The report of the European Commission of 1993, published in Copenhagen, emphasises the direct role played by developments in information and communication technology (ICT) in improving the quality of life of European citizens (European Commission, 1993, p. 5).

In the body of ideas developed about the meaning of the digital era, it is to be hoped that educational reforms would be based on a thoughtful interpretation of the paradigm of what the citizen of the digital era must face. That is to say, the educational reforms of the 1990s had to be directed to prepare the citizens in the handling information and communication technology, as Collins observes:

*The school cannot prepare citizens to live in the twenty first century with tools of the nineteenth century* (Collins, 1997, p. 5).

With this idea as a starting point, an exploration of the educational reforms in Latin American countries can be undertaken to evaluate whether the aims of the education considered the goal of preparing citizens for the digital age.

In Argentina, Federal Law of Education No. 24195 was enacted in 1993, and Article 1 set out the general aim, which was to ensure the integration and coherence of the National System of Education (Congress of Argentina, 1995, p. 2). In Article 6, the law sets out more specific aims, including the aesthetic, ethical and religious development of the people of the country. In relation to education, it argued that:

*The educational system will make possible the integral and permanent development of every man and woman, with devotion to national, regional and continental development and universal vision, so that people are recognised as having cultural and social dimensions, the ability to develop their capacities, guided by the values of life, liberty, health, the rule of law, peace, solidarity, tolerance, equality and justice* (Congress of Argentina, 1995, p. 3).

As can be observed, no mention is made of computer science or technology. Only in Section (i) of Article 53 there is any indication that the relevant ministry will offer support and technical assistance to coordinate the system in the provinces and municipalities of the city of Buenos Aires.

In Bolivia, the Law of Educational Reformation was passed by the National Congress on 7 July 1994. In that law, computer science is not mentioned, but it establishes that one of the aims of Bolivian education is:

*To stimulate attitudes and aptitudes towards art, science, technique and technology, promoting the capacity to face, creatively and efficiently, the challenges of local, departmental and national development* (National Congress, 1994, Article 2, Section 5, p. 3).

The President of the Republic of Brazil promulgated Law No. 9394 on 20 December 1996, which established the directives and foundations for the national education system. In Article 32, Section II, it sets down that education will cover:

*The understanding of the natural and social environment, of the political system, of technology, of the arts and of the values on which society is based* (Presidência da República, 1996, p. 14).

In Chile one can find Law No. 18962, described as the Constitutional Statutory Law of Education, promulgated on 10 March 1990. In Article 13, Section (f) it establishes the intention:

*To make aware of the importance of participating actively in expressions of culture related to art, science and technology, and secure harmonious physical development* (Ministry of Education of Chile, 1990, p. 12).

In Colombia, in the General Law of Education, approved in 1994, the aim of education is set down in Article 5, Section 13:

*To promote in the person, and in society the capacity to create, to investigate, and to adopt the technology that is required in the processes of development of the country, so that he or she is able to enter to the productive sector* (Congress of the Republic of Colombia, 1994, p. 4).

In the Statutory Law of Education of the Dominican Republic, in relation to the subject in hand, it sets down in Article 99, Section (g) that the aim is:

*To promote the establishment of incentives and stimuli to generate the capacity for science and technology on the part of the private sector, of the public sector, and of the educational institutions in particular* (National Congress, Dominican Republic, 1997, p. 39).

In the Law on National Education of the Republic of Guatemala, by means of Legislative Decree 12-91, it establishes in Article 2, Section 5 that the aim of education is:

*To drive forward education in the knowledge of science and modern technology as a means to preserve the ecological environment, or to modify it, in a planned and measured way, to the advantage of people and society* (Congress of the Republic of Guatemala, 1991, p. 2).

In Law 34 of 1995 adopted by the Legislative Assembly of the Republic of Panama, in Article 9, Section 5 it establishes the aim of education as:

*To stimulate development, knowledge, abilities, attitudes and habits toward research, and scientific and technological innovation, as the basis for the progress of society and the improvement of the quality of life* (Legislative Assembly, Republic of Panama, 1995, p. 3).

In the Statutory Law on Education of the Republic of Venezuela, Article 27, Section 2 describes the aim as being:

*To promote research into new knowledge and to push forward the progress of science, technology, letters, arts and other creative manifestations of the spirit, to the benefit and the well-being of human beings, society and the independent development of the nation* (Congress of the Republic of Venezuela, 1980, p. 15).

In Law No. 127 adopted by the National House of Representatives of the Republic of Ecuador on 15 April 1983 (also known as the Law of Education), no mention is made of the subjects of computer science and technology. The same is true of the General Law of Education passed under Decree No. 917 of 1997 by the Legislative Assembly of the Republic of El Salvador, of the General Law of Education adopted by the Congress of the United States of Mexico and published on 13 July 1993 in the Official Newspaper of the Federation, of Law 23384, the General Law of Education of the Government of Peru, and of the Law of Education No. 15739 of the Republic of Uruguay.

Governmental responsibility for “information and communication technology will not promote fairness, participation or employment, unless the governments implant suitable policies” (Howkins et al., 1997, p. 15).

Despite efforts worldwide, the global gap in Internet use by men and women increased from 11% in 2013 to 12% in 2016 (UNESCO, 2017, p. 1).

## Conclusion

At the conclusion of this paper, the following point can be made: Colombia and the countries of Latin American generally, experienced transformations imposed from outside in the 1980s and 1990s, as part of the project of the modernisation, evident in different fields, but especially strong in the economic and social structures, that were reflected in the educational field in the educational reforms that were implemented at that time.

Of the educational reforms in the region, only those of Colombia and the Dominican Republic consider the need to be creative in the field of technology and computer science; the others focus on the appropriation of knowhow.

In this panorama it is possible to be concluded that: The Latin American educational reforms of the 1990s, in spite of having the knowledge and of having participated in the formulation of the policies of the IBI that drew attention to the preparation of people to deal with information and communication technology, did not pay attention to those areas at all, and restricted themselves in the laws on education to the promotion of consumption. This is unlike developed countries, where education is based on the production of knowledge and technology around the information and communication technologies that are fundamental in the preparation of the citizens of the information age, to promote the advance of their countries.

In spite of the above, the historical problem of the digital divide is followed.

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