

# LOS COMIENZOS OFICIALES DEL USO DE LAS NUEVAS TECNOLOGÍAS DE LA INFORMACIÓN Y LA COMUNICACIÓN EN LA EDUCACIÓN COLOMBIANA<sup>1</sup>

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## RESUMEN

Este estudio intenta una aproximación a la historia reciente de la introducción discursiva de las Nuevas Tecnologías de la Información y la Comunicación (NTIC) por parte del gobierno colombiano de inicio de los años ochenta. Su objetivo fue determinar dentro de los mecanismos oficiales de implementación de la tecnología informática los recursos documentales y discursivos para la política de modernización del estado como parte de la preocupación por el desarrollo social, económico y educativo en el contexto de un mundo de tendencia neoliberal globalizante. Se investigaron las principales instancias documentales que expresaban las motivaciones e intereses que dieron origen formal a la introducción principalmente teórica y discursiva de los desarrollos tecnológicos del mundo en proceso de globalización neoliberal en el sistema estatal colombiano. Se encontró que la política oficial de estos comienzos estuvo determinada por la presión para la modernización del aparato estatal y la urgencia por la integración al mundo interconectado de inicios globalizantes, a través de la creación de diferentes entidades e instituciones administrativas oficiales encargadas de la introducción de las nuevas tecnologías de la información para la capacitación del recurso humano, especialmente en educación.

**Palabras clave:** *NTIC, nuevas tecnologías de la información y la comunicación, políticas oficiales, educación, modernización, globalización, Revista Historia de la Educación Latinoamericana.*

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## THE OFFICIAL BEGINNINGS OF THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN THE COLOMBIAN EDUCATIONAL SYSTEM

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### ABSTRACT

This study was intended to grasp the recent history of the discursive introduction of the new information and communication technologies (NICT) by the Colombian government in the eighties. Its objective was to determine within the official mechanisms of implementation of informatics the discursive and documentary resources for the official policy of modernization of the state as part of its concern for the economic, social and educational development in the context of a starting neoliberal and globalized world. One of the main official documentary sources where the interests and motivations that originated the formal theoretical and especially discursive introduction of the new technological developments were researched. It was found that the official policy in these beginnings was determined by the pressure for the modernization of the state apparatus and the urgency for the integration to the tele-communicated world of initial globalization, by the creation of several administrative entities in charge of the introduction of the new information technologies and the training of the human resources that this process required, especially in education.

**Key words:** NICT, *new information and communication technologies, official policies, education, modernization, globalization. Revista Historia de la Educación Latinoamericana.*

## OS COMEÇOS OFICIAIS PARA O USO DE NOVAS TECNOLOGIAS DA INFORMAÇÃO E COMUNICAÇÃO NA EDUCAÇÃO COLOMBIANA

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### RESUMO

Este estudo pretende abordar a história recente da introdução discursiva das novas tecnologias de informação e comunicação (NTIC) pelo governo colombiano durante os anos oitenta. Seu objetivo era determinar dentro mecanismos formais nos mecanismos de implementação de recursos de tecnologia da informação e documentários discursivos para a política oficial de modernização do Estado, como parte de preocupação com a educação social, econômica e no contexto do mundo de globalização neoliberal. Foram investigadas as principais instâncias documentais que expressam as motivações e os interesses que levaram à introdução mundo formal principalmente teórica e discursiva dos desenvolvimentos tecnológicos no sistema estatal colombiano. Ele finalmente descobriu que a política oficial de estes começos foi determinada pela pressão internacional para a modernização de aparelho do Estado e da urgência para a integração no mundo global de telecomunicações, especialmente através de criação de diferentes entidades organizações e instituições responsáveis pela a introdução de novas tecnologias de informação para a formação de recursos humanos, especialmente na educação.

**Palavras-chave:** *NTIC, novas tecnologias de informação e comunicação, políticas oficiais, educação, modernização, globalização. Revista Historia de la Educación Latinoamericana.*

### INTRODUCTION

On an unspecified date as far back as the eighteenth century, the encyclopedic movement did notice that a time would come when learning from the books would be almost as normal as a direct study of the whole universe; that the proliferation of printing and the extensive role of books would fill the libraries for readers, hungry for information and knowledge, and eventually, the world of learning would be a world of books.

However, in our most recent world not just the books in libraries are the only means available to access information and knowledge but all computerized resources that modern informational technology through which people can access information for a multitude of purposes. This process of introduction, adoption and integration of new information and communication technologies (NICT, hereafter) - especially in regard to their ability to provide individuals with new and unlimited access to the world of information -has been so dramatic that we still do not know quite well when it started and how it was produced and established.

At the international level the characteristics of new technologies have come to be considered as compatible with specialized centers of study and learning from the most famous universities in the world and some of their most significant capabilities resemble university libraries especially dedicated to the research process which functionally fit with it. Just as libraries have been an extremely powerful and useful instrument for research, for knowledge and learning, for the development of education and culture, so have been the NICT and the Internet during the last two decades - and largely, for the same reasons.

To better understand the development of these processes: the introduction and integration of ICT in developing countries, and particularly in the Colombian educational system, we must ask about the origins and official introduction of these new technologies in the recent history of the Colombian educational system and in particular the initial administrative implementation within the historical context in which they were conducted.

### **1. The recent history of NICT in the official documents**

It is important to consider the observations that have been made on official documents as sources of historical research within the methodological and historical aspects. In this sense, considering the methods and techniques of historical research, Julio Aróstegui integrates the field of qualitative research for document observation and the analysis of the production of official documents as primary sources. He also considers the document and its discourse as a symbol, between primary and secondary sources, around which the story is built, taking into account "... intellectual discourse [that] comes from human creativity, through which you can infer something about a particular social situation in time"<sup>3</sup>.

Therefore, the approach of approximation to documents and analysis is an interpretive and qualitative research paradigm since the object is related to the observation and description of a phenomenon of change and innovation in education through the analysis of official documents where the nature of the discursive events implies the need to 'let oneself be permeated by the air of the times'<sup>4</sup>. Consequently, this study focuses on the recent history of the introduction of NICT from the official documents which examines the discourse within the field of technological change in general and of education in particular. Also, this process describes and interprets the meanings of official documents within a particular historical context that involves setting up representations of NICT at institutional and social levels through discourse. The character of an emerging design implies an interpretive paradigm which involves more than a method a theoretical-methodological approach. Thus, to approach the object of investigation is achieved by analyzing the official documents as a historical research technique: the beginnings of NICT from the official government documents in education. This interpretative work is performed under the assumption that there is no single interpretative analysis, and that the process is open to the dynamics of comprehension-explanation where the analyses are subject to change, channeling and reinterpretation, yet through the especial guide of the context of situation.

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<sup>3</sup> Julio Aróstegui, *La investigación histórica: teoría y método*. (Barcelona: Crítica, 2001), 380.

<sup>4</sup> Jean-Pierre Deslauriers, *Investigación cualitativa: guía práctica*. (Pereira: Editorial Papiro, 2004), 5.

## 2. Globalization as the context of technological change

Globalization is not necessarily a new concept, but its contemporary usage. This term has been the key in the design and rationale of the new educational reform policies in both industrialized and developing countries in the so-called 'Third World' because it has acquired a central position in almost all forms of human endeavor in the current world. Whatever position people take of this concept can hardly be ignored. Hence, its meaning can have different implications; political, social, economic, technological and educational.

In fact, the term itself can have several meanings and these do not necessarily correspond, as it seems to be, to a new term as the result of academic or political fashion but to the elusive character of an important process that has to be taken into account by current historical context. However it is in the range of the spectrum of different meanings that it opens to the possibilities of its use<sup>5</sup> and it tends to be taken differently from various fields and situations (political, economic, social, educational, technological, etc.)

It is generally contended whether globalization is a new historical era or just the renovation force of an existing one, the neocapitalist and neoliberal structure in today's world<sup>6</sup>. Undoubtedly, globalization as a phenomenon of the second half of the twentieth century has to do with features of historical periods such as modernity, imperialism, late capitalism, neoliberalism, and its link with internationalization, the homogenization of politics and multiculturalism, the latter as the encounter of different peoples and cultures thanks to the advancement of science and technological development in the world.

However, a feature that greatly excels in this context is the relationship between globalization and social and cultural aspects about the adequacy of aspects such as 'change' and 'flexibility' to the new context which implies a trend toward globalization and homogenization of different types of practice (political, social, cultural, and therefore discursive) Perhaps, more important than anything else is that some researchers incorporate to globalization the features of economic and technological domains<sup>7</sup>, thereby setting a new techno-economic paradigm of knowledge<sup>8</sup>. This has resulted in the emergence of the 'information society' and 'knowledge society' as a 'network

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<sup>5</sup> Michael Halliday, *El lenguaje como semiótica social* (México: Fondo de Cultura Económica, 1982); Ludwig Wittgenstein, *Investigaciones filosóficas* (Barcelona: Crítica, 1988).

<sup>6</sup> Eve Chiapello & Norman Fairclough, "Understanding the new management ideology: a transdisciplinary contribution from critical discourse analysis and new sociology of capitalism", *Discourse and Society* Vol: 13 No. 2 (2002): 185-208.

<sup>7</sup> Fernand Braudel, *Escritos sobre la historia* (Madrid: Alianza, 1991); Marshall McLuhan, *La galaxia Gutenberg: génesis del Homo typographicus* (Barcelona: Planeta-Agostini, 1985). See also, from the same author, *Comprender los medios de comunicación: las extensiones del ser humano*. (Barcelona: Paidós, 1996) and Richard Smith, Brian Lewis & Christine Massey, "Policy processes for technological change", In *Knowledge management and higher education: a critical analysis*, ed. Amy Metcalfe (Hershey: Information Science Pub., 2006), 182-195).

<sup>8</sup> Michael Gibbons, et al. *La nueva producción del conocimiento: la dinámica de la ciencia y la investigación en las sociedades contemporáneas*. (Barcelona: Pomares-Corredor, 1997).

society<sup>9</sup> with the contradictory ingredient that globalization while 'connecting' people and territories also relentlessly 'disconnects' individuals, institutions, countries and societies that do not conform to what the hegemonic demands of market and technology, (neoliberalism, homogenization) require and impose on people and which is ultimately considered as the basis for development<sup>10</sup>.

In a more general sense, globalization emerges as the predominance of a western conceptualization that paradoxically leads to national and regional (local) disintegration to give way for transnational integration (global)<sup>11</sup>. For some analysts who observe global and neoliberal society from a critical perspective globalization can be considered as a starting point to building a 'consumer society' motivated by a form of market economy with far more power than even the same state<sup>12</sup>. For others, it appears as a catastrophe that threatens the civilizations and cultures of the minorities<sup>13</sup>; and yet for others, it is a part of a tight conditioning of political and economic power by highly developed countries on weaker countries as they enter the global political and economic system, with its difficulties and risks, especially when it comes to do with education<sup>14</sup>.

### 3. The new technologies of information and communication (NICT)

New information and communication technologies have existed from the development of humanity itself and refer more specifically to the tools or means for communication between humans. Modern technologies of information and communication have come into existence in more recently centuries with the invention of the printing press in the fifteenth century; with the industrial revolution of the late eighteenth century and the subsequent invention of the telegraph, the telephone and the development of electronic technology of our time: radio, television, and telephony giving way to technological orientation of globalization, that is, technological globalization.

More recently, people talk about the new information and communication technologies which are identified and commonly known within the field of 'informatics' as the application and use of computers, mini-computers and personal computers to electronic and digital processing of data.

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<sup>9</sup> See also the three volumes by Manuel Castells, *La era de la información: economía, sociedad y cultura*. Vol. 1, *La sociedad red*; Vol. 2, *El poder de la identidad*; and Vol. 3, *Fin de milenio*. Madrid: Alianza Editorial, 1998, 1999).

<sup>10</sup> Noam Chomsky, & Antonio Desmots, *El beneficio es lo que cuenta: neoliberalismo y orden global*. (Barcelona: Crítica, 2000); Jesús Martín-Barbero, "Una mirada latinoamericana a la sociedad de la información", In: *Desafíos de la sociedad de la información en América Latina y Europa*. Ed. UNICOM (Santiago de Chile: Editorial LOM, 2000), 27-33.

<sup>11</sup> David Harvey, *La Condición de la posmodernidad*. (Buenos Aires: Amorrortu, 1990).

<sup>12</sup> Noam Chomsky & Heinz Dieterich, *La sociedad global: educación, mercado y democracia*. Tlalneptla, Mexico: Contrapuntos, 2002).

<sup>13</sup> Michael Apple, "Freire, Neo-liberalism and education", *Discourse: Studies in the Cultural Politics of Education*, Vol. 20 No.1(1999), 5. See also, Stanley Aronowitz, et al. *Tecnociencia y cibercultura: La interrelacion entre cultura, tecnología y ciencia*. (Barcelona: Paidós, 1998).

<sup>14</sup> Paulo Freire, *Cartas a Cristina: reflexiones sobre mi vida y mi trabajo*. (México: Siglo XXI, 1996); Néstor García Canclini, *La globalización imaginada*. (Buenos Aires: Paidós, 1999).

They are also part of the development of the mobile industry and its integration into global information networks and network communication processes, as in the case of the Internet. It is at this stage that the rapid technological changes have become more abrupt, and the phenomenon of globalization has had in the technology its most important mate for catalysis, i.e. the possibility of eliminating the physical boundaries of time and space; covering more space and 'connecting' more territories and people through more powerful, 'affordable' and 'flexible' mass media.

### ***The NICT in Colombia***

The new technologies have arrived to Colombia mainly from abroad and have been introduced in almost all manifestations of daily life and culture. In education, government agencies have been commissioned to formalize its introduction through government policies, adapting, to some extent, the technological development that comes from other countries. However, the degree of acceptance and integration with society ICT in this process is not without influences of various kinds (economic and political) within the broad framework of what is now called the 'information society' and the 'knowledge society' in the era of globalization.

On the other hand, these technological innovations have not had sufficient reflection and debate, not only in terms of their capabilities and limitations in education but, especially in its impact on the nature of education itself, their goals, objectives and functions in the 'digital age' in the field of internationalization of the late twentieth century. All this has generated a new discourse of change and technological innovation in institutions of primary, secondary and higher education, in order to facilitate the introduction, familiarization and eventually integration of these new technologies into the educational system of the country. Since this process is very recent in Colombia and has hardly had a debate from a historical, analytical and reflective perspective (much less critical) there is the need to ask from the official documents issued by government institutions about the beginnings of this phenomenon in Colombia and its implications in education.

### ***Antecedents of the introduction of the NICT***

The studies that reference NICT from early official documents are pretty scarce in our country. However, findings close to the relationship between these and other areas of influence can be detected. Victor Gomez argues, uncritically accepts the major changes in social, economic, political and cultural from NICT as closely related to the development of science or the result thereof. At the same time he introduces in the education sector (from the technocentric perspective) the notion of 'market' when he refers that education is the 'processing of information' of an intensive type. Consequently, information technology is considered as having very high chances as innovative educational tool to enter the 'education market'<sup>15</sup>.

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<sup>15</sup> Víctor Gómez, "Educación informática y educación informatizada", In: *Educadores e Informática: promesas, dilemas y realidades*. (Santafé de Bogotá: Colciencias, 1988) 313-348.

From a more socio-critical perspective, Antanas Mockus is one of the few researchers who provide a reflective look, to the introduction and application of NICT in education due to its instrumentalist character<sup>16</sup>. Using an integrated conceptualization between the pragmatic theory of communication Habermas<sup>17</sup> and the socio-semiotics of Bernstein<sup>18</sup>, Mockus aims at a 'rationalization' of education which emphasizes a more communicative interaction between individuals than the use of technology for its own sake and its symbolic connotations. He also assimilates technology and its misuse to a kind of instrumentalism not convenient and emphasizes direct communication rather than the consolidation of education as technical-instrumental process, as it is done in economic or material production (production of goods and services). In this sense, he approaches the critic of NICT in the sense to warn about the abrupt arrival of these to transform teaching as a centered process of data accumulation and proliferation of technological and educational tools, configuring this into somewhat similar to 'means of production of knowledge' in the manner of 'work' and the 'market' with consequent notions of 'performance' and 'efficiency' brought from material production processes and the market economy.

Within the discourse development that is found in the field of research on the impact of NICT in education, eminently subjective assessments usually emerge. For example, there are many descriptions of qualifiers such as 'better', 'faster', 'quality' and 'significant', thus determining a priori and perhaps excessive assessment of technological innovation in education.<sup>19</sup> From a more reflective position, these same authors say that facing NICT the subject is limited to the application of predefined procedures, but not to the evaluation and generation of knowledge through critical reflection of the phenomenon of technological contribution in changing education. One of the most important observations is the fact that NICT are considered as ways of representing the world that through the new technocentric discourse used to approach a new educational reality, a reality linked to the world of 'global' way of life as a way of dominant thinking or ideology.

As can be seen, the critical position on technological change in education is relatively low at the local level due to the introductory nature and novelty (high physical validity) of new technologies and the high levels of acceptance they have generated. On the one hand, technological innovation involves, in the whole society and its representations, the ideal of modernization, progress, welfare, and 'accurate' and 'effective' solution to individual and social problems, on the other, to the unquestioned penetration of computers and telecommunications in the professional and daily

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<sup>16</sup> Antanas Mockus, "Pedagogía, escritura e informática", In *Educadores e informática: promesas, dilemas y realidades*, ed. Víctor Gómez, (Santafé de Bogotá: Colciencias, 1988) 103-153.

<sup>17</sup> Jürgen Habermas, *Teoría de la acción comunicativa*. Vol. 1, *Racionalidad de la acción y racionalización social*. (Madrid: Taurus, 1999).

<sup>18</sup> Basil Bernstein, "Un ensayo sobre educación, control simbólico y prácticas sociales", In *La construcción social del discurso pedagógico*, ed. Mario Díaz (Bogotá: El Griot, 1993) 37-79; See also from the same author, *La estructura del discurso pedagógico: clases, códigos y control*. (Madrid: Morata, 1994).

<sup>19</sup> Luis Maldonado & Paola Maldonado, *Nuevas tecnologías aplicadas a la educación: estado del arte de la investigación, 1990-1999* (Vol. I). (Santafé de Bogotá: ICFES, COLCIENCIAS, Sociedad Colombiana de Pedagogía – SOCOLPE, 2001).



life in general, as an indication of the high acceptance of technology in the mentality and imaginary of people, and especially in young people.

### ***The official documents in the introduction and implementation of the NICT***

To address the research question from the perspective of the documents after the initial mentioning of the context outlined above within the global scope and the spirit of the approximation to the official documentation for investigative work, it was considered appropriate to use government records where the official documents and policies of technological introduction and implementation of the state lie, in this case, the Archivo de la Presidencia de la Republica, in the first stage and the Archivo General de la Nación in the second phase of this work.

One reason to use the Archivo de la Presidencia is that the correspondence of state officials, the proceedings, arguments, proposals, agreements, and policies are generally easy to locate there, especially of the recent periods of people in the Colombian government, especially of those policies that promoted the modernization of the state in its various aspects, including education. The administrative process that led to the design and structure of a NICT policy for modernizing the administrative apparatus and productive state, and in particular the education system can determine. All this in line with the events and cutting-edge developments in other parts of the world in this field, as in the United States, Japan, France, and the UK.

### ***The origin of the Center of Informatics Project***

It is particularly interesting to note that from the early eighties the Colombian government had made contacts and provisions to advance a process of human resource training and implementation of NICT for technological, scientific, educational and social development of the country.

The government of Dr. Belisario Betancur (1982-1986) asked for advice to other states, governments, institutions and centers of international experience in both technological and educational fields, such as the Massachusetts Institute of Technology MIT, the United States and the World Information Technology and Human Resources in France regarding the to various aspects of informatics implementations. They responded positively to the colombiana modernizing project<sup>20</sup>.

Thus, one of the first initiatives of the government was the request for logistical support for the acquisition of resources and infrastructure through diplomatic channels with the government of the United States and Japan. This resulted in a first donation from the Japanese government in the area of infrastructure for which several goals were designed within an ambitious program of

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<sup>20</sup> “Official letter from Dr. Alonso Ospina Ospina to the Ambassador of Japan” (3 June 1983). Archivo de la Presidencia de la República de Colombia (APRC), vol. 1, folder 24 (Embassy of Japan), f. 1. (In this archive the names ‘Caja’ [Box], ‘Carpeta’ [Folder] and ‘folio’ can be found instead of vol. leg. and f.)

implementation and training not only in the public sector but also, and more importantly, in education.

In 1983, in a letter from the Secretary of the Presidency of the Republic of Colombia, Dr. Alonso Ospina Ospina exposed the aims of the program to the Ambassador of Japan in order to use an important donation of this country. The social and educational aspects dominate the objectives in the discourse of the document:

*to familiarize all Colombians with the personal computer so that it can become a tool, not only for use in offices, but also to be used in small businesses and even in homes.*

*to create incentives so that public and private education institutions acquire mini and microcomputers allowing them the use of all students.*

*to introduce information technology and telematics in educational programs of the government.*

*to promote special programs for children and young people with learning difficulties.*

*to enter the computer in the rural sector in ways that help farmers to plan, control and manage their crops<sup>21</sup>*

The program was aimed at modernizing the country, in areas as important as state administration, economic production, rural development, education and welfare for all Colombians. It should be noted that the design of the proposal included not only the implementation of the infrastructure in general, but more importantly, the training of personnel who would be in charge of managing teams and that in turn would ideally share their experience and knowledge with others of their field and the community at large.

It is also important to emphasize the value that the country gave to the social component as a central part in the technological development, that is education and social commitment to which technology, should serve; such was the challenge of information technology regarding the educational and social systems. In other words, the discourse of the government was in this sense condescending both economically and socially. This was expressed in the proposal letter that Dr. Alfonso Ospina Ospina, secretary general of the presidency addressed to the Ambassador of Japan Dr. Nagasaki<sup>22</sup>,

*Within this context, the use of computers is one of the current most important developments and its application in the field of education, health, agriculture and industry, will significantly contribute to social and economic progress of our society<sup>23</sup>.*

All this was clearly framed within a programmatic scheme as was the "Plan de Desarrollo Nacional" (1983-1986) (National Development Plan) based on the educational and productive

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<sup>21</sup> "Official letter from Dr. Alonso Ospina Ospina to the Ambassador of Japan" f. 1, 2.

<sup>22</sup> "Official letter from Dr. Alonso Ospina Ospina to the Ambassador of Japan" f. 1, 2.

<sup>23</sup> "Official letter from Dr. Alonso Ospina Ospina to the Ambassador of Japan" f. 1.

processes of the country, two disparate concepts today that at one point in history joined in a coherent and committed discourse to the needs of development of the country and its society. Thus the project “Computer Centers”<sup>24</sup> was born as the product of a grant from the government of Japan consisting of a set of 100 modern computer equipment “... which would be installed in the capitals of the departments and some municipalities”<sup>25</sup>.

Consequently, the government turned to the international institutions that set the leadership in information technology aspects related to the economy, the industry and education in the world.

Within this governmental program on NICT there were also the children of the country included as an important participant or recipient of training in the use of these technologies:

*The microcomputer centers to be installed in the cities and in some municipalities are intended to familiarize the citizens and especially the CHILDREN with computers*<sup>26</sup>.  
(Emphasis mine)

It can be determined that the government was also very well advised by internationally recognized experts in the field of education for technology implementation and human resource training. Well renowned authorities in the fields of software, hardware and technology implementation in education from leading global institutions were present at the invitation of the government, such as doctors Kinya Matzumura, and Hiroyuki Saito of Japan. The government also made contacts for staff training plans with the Massachusetts Institute of Technology (MIT) in the United States, and particularly with authorities like Dr. Seymour Papert, Dr. Nicholas Negroponte and other U.S. experts in the field of information technology and its application in education and cognitive science which was beginning to stand out internationally with the help of new technological component. Similarly, these institutions, invited the Colombian government for personnel training abroad, but to a lesser extent.

In addition, it is very important to underline the research agreement between MIT and the Colombian government which was initially established as a formal project in 1982<sup>27</sup> and in which the educational and research aspects were highlighted:

*the parties hereto agree as follows:*

1. *1. STATEMENT OF WORK. MIT is committed to doing its best to develop the research program called “Personal Computing Colombian development” as described in the attached proposal.*
2. *Two. PRINCIPAL INVESTIGATOR. The research will be supervised by Professors Nicholas Negroponte and Seymour Papert. If, for any reason, they could not continue to serve as principal*

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<sup>24</sup> “Official letter from Dr. Alonso Ospina Ospina to the Ambassador of Japan” f. 3. Letter from Dr. Hernán Heltz Peralta to the Ambassador of Japan Mr. Hiroshi Nagasaki. (15 July, 1983). (APRC), vol. 1, leg. 24 (Embassy of Japan), f. 3

<sup>25</sup> APRC, vol. 1, leg. 24 (Embassy of Japan), f. 6.

<sup>26</sup> APRC, vol. 1, leg. 24 (Embassy of Japan), f. 7.

<sup>27</sup> “Research agreement between M.I.T. by Dr. George H. Drummer” (January 3, 1983) (APRC) vol. 1, leg. 3 (M.I.T.), f. 12. This is the document of the research agreement presented by the Massachusetts Institute of Tecnology from Dr. George H. Drummer, director of the support programs, written in july 1982.

*investigators and a successor acceptable to parties, MIT and the sponsor is not available, this agreement shall terminate as provided in Article 6<sup>28</sup>. (Mi traducción)*

It may be noted that the introduction and implementation of NICT in education by the Colombian government was not a process of improvisation or a process marked initially by globalizing mercantilist pressure of being on par with other developed states and systems, but on the contrary, it had at its center a whole concept of comprehensive development, which was in line with the economic, industrial, educational and social development. But particularly, as it was noticed in the previous document, this whole process was the result of institutional efforts of governmental policy and modernizing discourse driven by their representatives framed theoretically within cooperation and research aspects, and most important with the training of the Colombian human resources.

### ***The informatics policy in Colombia***

In the early eighties the Colombian government recognized the importance of these new technologies for the economic and social development and the importance of information management in the planning of the administration, the production and research in the country. It therefore promoted the creation of several state agencies, namely, the “Consejo Nacional de informática”, the “Secretaría de informática de la Presidencia de la República”, the “Plan Nacional de Informática” and the establishment of the “Centro Latinoamericano de Recursos Humanos e Informática”.<sup>29</sup> There was no explicit economic or political interest from the part of the foreign actors and it was the Colombian government who came to approach international educational institutions. However, it is necessary to state that the door for future direct or indirect type of external interventions had been left open.

Government policy regarding computer technology in the eighties (as it was called initially at that time) was not only directed to the productive and industry sectors, but also to society and education as a whole to promote integral development. It was also aware that a lot of time and space had been lost in this area of rapid technological development, and consequently, it had to act quickly. As mentioned above, one of the sectors that would benefit from this policy was necessarily that of education and health: “Particular attention will be given to the modernization of the state and to the pursuit of improvement in education, agriculture, rural development and health”<sup>30</sup>.

Some of the strategies of the action plan for the introduction and massive knowledge of this new technology policy included the establishment of ‘computer rooms’ for free use, conducting

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<sup>28</sup> “Research Agreement from M.I.T. by Dr. George H. Drummer” f. 12.

<sup>29</sup> “Official letter called Desarrollo de Recursos Humanos y la Informática” (APRC) vol. 1, leg. 30 (Ley de Informática), f. 82. This is the official document on the development of Human Resources and Informatics from the Presidencia de la República that was promoted through the Decree 146 of January 24, 1983 and which had initially been introduced as a law proposal (Ley de informática) in March 1984.

<sup>30</sup> “Official letter called Oficio Desarrollo de Recursos Humanos y la Informática” (APRC) vol. 1, leg. 3 (M.I.T.) f. 12.

training seminars on current topics in computer science, and the “establishment of incentives for educational institutions for acquiring equipment made available for all students”<sup>31</sup>.

The coverage areas and fields of action of computer policy from the government included both formal and non-formal education literacy. This was not though for basic and higher education levels but also for distance education, vocational training, literacy and rehabilitation program. The scope of literacy programs and formal training included, if not all, a very good part of the whole education system

It has been established based on the documentary sources that among the government plans education was the recipient of the technology for administrative training, initially, without yet considering aspects of teaching and learning. However, concern for this component in higher education programs and their impact on the preparation of future professionals for the development of the country was notorious. That was implied in the text of the project which proposed the creation of the “Consejo Nacional de Informática” where originally and specifically mentioned that the “Secretaría de Informática de la Presidencia de la República” would be involved in the decision making of the curriculum of higher and technical education programs dealing with informatics which would be developed, coordinated or approved by competent state agencies”<sup>32</sup>

Clearly then was the state's interest in the training of human resources and in preparing the context for the industrial, social and educational development in the country, not only in the knowledge of these technologies but in applying them in different fields and the everyday work.

### **3.3. The new technologies in the 1991 New Colombian Constitution**

The most recent historical process of NICT in Colombia has to do with the discourse of the documents produced in the government of César Gaviria Trujillo as President of Colombia in the wake of discussions, meetings and deliberations of the National Constituent Assembly of 1991 on the issue of the quality of education and on the beginnings of the modernization of the Colombian state through NICT in the field of public education. These facts will serve to understand how the state's concern for the modernization of the education system developed, previous to discussions in the Asamblea Nacional Constituyente whose documentation rests in the Archivo General de la Nación<sup>33</sup>. This is especially important since it represents the beginnings of the conceptual and discursive strategies handled by the government in this context which introduced the first notions of global educational development, the value of information and knowledge internationally mostly from where great strides had been given in the field of technologically mediated educational change.

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<sup>31</sup> “Official letter called Oficio Desarrollo de Recursos Humanos y la Informática” (APRC) vol. 1, leg. 3 (M.I.T.) f. 81

<sup>32</sup> “Draft of the letter including the Project for the creation of the Consejo Nacional de Informática” (March, 1984). (APRC), vol. 1, leg. 30 (Proyecto Ley de Informática), f. 82.

<sup>33</sup> “Asamblea Nacional Constituyente” Archivo General de la Nación (1991), (AGN), *Sección República*, Constituciones, Asamblea Nacional Constituyente.

On the other hand, the 1991 constitution opened unprecedented opportunities in this field when it stressed out, for example, the discursive concept of internationalization of higher education in Colombia. In this way the educational reform legislation of Colombia had been nurtured by the development of the rights, goals, principles and global values incorporated into the constitution as it was the case in other countries. Under the new constitution, the government was responsible for this process since according to the text, the same state eventually moved it closer to education: “The State shall promote the internationalization of political, economic, social and ecological based on equality, reciprocity and national interest”<sup>34</sup>. On the other hand, the values, principles and fundamental rights established in the constitution had been the basis for ensuring profound changes in education. Regarding the Law 30 from 1992, under the umbrella of the concept of 'globalization' the introduction of the concept of 'internationalization' was established as one of the major challenges in the education sector. Under this law, the state ceded responsibility and autonomy granted to higher education institutions to encourage training, strengthening the academic communities and coordinated with other national and international agencies the processes of internationalization and globalization of education. Consequently, the central objective of this law with respect to links with the global academic community was to transcend national boundaries and in the same way, it follows, to be open to international demands and pressures.

#### **4. The right to education and to information**

According to the plenary and discussion in the Asamblea Nacional Constituyente on the human rights commission, it is worth highlighting the work undertaken by the subcommittee 014 on the 'Right to Education', promotion of culture, science and technology. Its starting point was based on: The right of every person to create, enjoy and access goods and values of culture, understood in the extensive way just explained<sup>35</sup>.

It is worth noting that in this committee that dealt with the right to education and human development potential, economic factors would have been included to the development of culture through media. In this way the concept of technology closely related to the information from political, economic, and social contexts such as the 'knowledge society' (as an aspect of value) and of 'internationalization' of the economy, of education and of culture was being handled internationally. The new concept of society as the 'information society', the 'knowledge society' and therefore the 'society of the consumer economy' and therefore, that of the market was not only utilizing basic and essential goods of support but also used the information and communication with aspects of production. In this regard the concerned committee stated:

*Our era is marked by economic and cultural globalization which leads to a community of nations based on knowledge and cultural creation. In particular, both technological progress and the*

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<sup>34</sup> Taken from Article 226 of the Politic Constitution of the Republic of Colombia. Chapter VIII: De las relaciones internacionales; Título VII: De la Rama Ejecutiva.

<sup>35</sup> “Tecnología: Artículo aditivo” (1991) (AGN), *Sección República*, Constituciones Asamblea Nacional Constituyente, vol. 04498, leg. 251, f. 116.

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*development of mass media, as preservation of cultural diversity require and generate deliberate processes of creations of appropriation and of dissemination of knowledge and values<sup>36</sup>.*

Therefore, people were aware of the implications of what the constitution was advocating. Hence it was the will of the community represented in the work of this committee composed of 32 members of a high level of knowledge and responsibility that has linked the economic and cultural development with the advancement of knowledge through the use of information and communication technology. In other words, and as stated in the document, the country “must be able to understand and take advantage of the great contemporary trends”<sup>37</sup>. That is, it was implicitly referring to the context of globalization in which NICTs were already playing an important role in the development of a technologically oriented world, and this would mostly noticeable in the field of education over time.

Regarding the action and function of mass media is important to consider the work done by the constituents Abel Rodriguez and José Germán Toro who presented the project of “democratic reform of education” when in Article 11 they proposed that the mass media had to be forced to “assist in the attainment of the objectives of education, in the terms established by law”<sup>38</sup>. This was unwittingly advocating the involvement of what later would come to compete for an important share of education, the World Wide Web (Internet) and national and international programs of distance and virtual education.

In addition to it, was the right that the constitution should grant to any citizen who voluntarily wanted information and the right to be fully informed. This meant that it was not only important to 'want' information but that the instruments for accessing information should be available for achieve this purpose. With the availability of technological infrastructure through which information (analog or digital) was accessed either, could then be certain that the person could actually be able to learn. This follows from the 'right to communication' established in a proposal that had been worked in the context of the Asamblea Nacional Constituyente on that topic:

“Everyone has the right to [...] inform and to be informed in a truthful, impartial and complete way”<sup>39</sup>.

This also involved social communication as the right to access information and knowledge and the responsibility to do so in a 'complete' way. Thus, the technocentric speech had been prepared from initial stages of a proposal to that of the constitutional, legal and official type, so that the whole process of discursive introduction and implementation could lead to what sooner would be called or considered a representation of a technological reality or as the collective imagination of modern times.

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<sup>36</sup> “Tecnología: Artículo aditivo” (1991) (AGN), f. 118.

<sup>37</sup> “Tecnología: Artículo aditivo” (1991) (AGN), f. 118.

<sup>38</sup> “Reforma democrática de la Educación” (1991) Archivo General de la Nación, (AGN) *Sección República*, Constituciones, Asamblea Nacional Constituyente, vol. 02217, leg. 21, f. 7.

<sup>39</sup> “Universidades del Estado” Archivo General de la Nación (AGN), *Sección República*, Constituciones, Asamblea Nacional Constituyente, vol. 00997, leg. 45, f. 189.

### **The universities and the new technologies in education**

The Colombian university was not immune to the cry of the intellectual, social groups and the wider education community to make known their concerns and demands regarding the modernization of education and better implementation of an educational structure that would ensure the citizens' integral development to an era of rapid technological and telecommunications development.

It is in exercise of the university autonomy that the improvement of the quality of higher education was proposed through processes of modernization, internationalization and the government's commitment to support research and scientific and technological development of the regions. Technology as a means for the university to serve not only as a transmitter of knowledge but as a generator of the same could achieve significantly taking NICT not only as a tool but also as an ally and means for the academic and scientific community to project into other nations, but at the same time to be open to them. In this regard it was noted how organizations such as the Colombian Association of Universities (ASCUN for its acronym in Spanish) presented for discussion his education reform bill before the Asamblea Nacional Constituyente<sup>40</sup>.

With regard to the importance of the role of information in the new knowledge society, the organized bodies, trade unions and academic institutions took advantage of the opportunities to be heard in the context of the 1991 Asamblea Nacional Constituyente and so sent their projects and proposals to the different instances, to be formally included in the agenda for discussion. Also there was wide participation in the different plenaries in the context of the new constitution to expose such considerations and educational positions with respect to information and communication technology and the role they would play in the future of the country. Public universities participation organized and represented by ASCUN were a good example of this process.

The opening of education outwards through technological change, that is, in the sense of having possibilities to affect and be affected by political, economic, social and technological external nature was given (maybe more in the latter case than in the former). In other words the process of opening to the internationalization of education in the context of influential globalization had broken through, with all its potential advantages and its limitations and risks.

### **CONCLUSIONS**

There is no doubt that the world experienced profound changes of political, economic, social, technological and cultural order in the late twentieth century. It has been discussed on the type of change in each of these areas in the recent history of modern society, particularly in the context

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<sup>40</sup> "Asociación Colombiana de Universidades ASCUN" (March 1991) Archivo General de la Nación (AGN) vol. 02259, leg. 221.



of the phenomenon of globalization and its concomitant aspects as those who have guided the world and to which some analysts have identified as pertaining to the development of a new stage of capitalism, the new capitalism or late capitalism, among other names<sup>41</sup>.

Within this new setting of the world and its political, economic, social and cultural values it is worth to highlight the technological aspect of undeniable influence on human history and education and which is closely related to the above mentioned aspects in the new denominations of society: 'information society', 'knowledge society', 'digital age society', 'global society', 'network society' in which paradigmatic changes such as those predicted from the sixties by Marshall McLuhan, until the nineties by Manuel Castells are manifest. However, these changes which have occurred within the phenomenon of globalization since the late XX century have also touched the field of education, particularly higher education and universities in most of the world and particularly in the country subject to great pressure towards change as a result of a complex interaction of internal and external forces closely linked to both economic and technological globalization<sup>42</sup> and the dominance of the political-economic paradigm that has been increasingly driven from new information technologies.

Despite the relative low development of the country on issues of modernization with the introduction of NICT in relation to other developing countries, and the role they should play in terms of development, it is important to consider that since the beginning of the eighties there were already the efforts being made to discursively 'formalize' its introduction. It is important to highlight the vision, and positive management attitude by the Colombian government of that time not only in the sense of formalizing the legal and institutional mechanisms to speed up the discourse and documentary introduction of NICT in the state apparatus but also concerning the modernization of the economy and the development of the country with the creation of various official institutions needed for the management in practice.

It is precisely the social and educational levels that are highlighted in this brief study, as would be expected at the level of official government policies to carry out the first steps that discursively shaped a major change in the preparation and training of future professionals and society to integrate the productive and labor force of the country. This is in regard to the level of official government documents in which processes of high responsibility as the modernization, innovation, social development, and ultimately change itself are assumed.

However, despite the diligent attitude and action of state policies from successive governments since the beginning of this process in the early 1980s to its modern configuration under the 1991 Constitution, the official introduction of ICT with the opening of the country in terms of implementation and educational and cultural enrichment also occurred from the other track, the

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<sup>41</sup> Jeremy FOX, *Chomsky y la globalización*. (Barcelona: Editorial Gedisa, 2004).

<sup>42</sup> Richard Katz, "Competitive strategies for higher education in the information age", In *Dancing with the devil: information technology and the new competition in higher education*, ed. Richard Katz, (San Francisco, Calif.: Jossey-Bass Publishers, 1999) 28-52. See also, Richard Smith, Brian Lewis y Christine Massey "Policy processes for technological change", In *Knowledge management and higher education: a critical analysis*. Ed. Any Metcalfe, (Hershey: Information Science Pub., 2005) 182-195.

involvement not only technological and educational and paradigms, but also the introduction of political, economic and cultural paradigms of exogenous type.

Therefore, for a future understanding of this process it would be very important to know whether all these initiatives, among others, had the actual application in practice and to historically determine what has been their development and real implications, which are those that have been consolidated; and to what extent they have affected the cultural and educational practices of the people of our present age with respect to their educational, economic and social development. In the same way it would be necessary to know what the real implications of this form of discursive introduction to the modernization of the state were and consequently the impact on education at different levels related to both economic and social development.

Finally, one could not leave out the critical aspect of this process, especially in the historical context of technological change which is the articulation of the phenomenon of globalization with the market economy and social development that tends both for multiculturalism and uniformity (standardization) and techno-economic motivation of our time. The critical perspective on technological change in education would allow a glimpse of whether there is something beyond the conviction of 'common sense' about the historical benefits of technological change in education. This would had to do with the discursive means which support the dissemination of technological change in education, its introduction, coupling and integration to traditional forms of education with increased ways of action perhaps not very congruent and that would eventually lead to people in education having to change their goals, their mission and vision that have troubled so much to the human being and societal perspectives devoting time and effort in the involvement of developing modern technology.

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