"The Culture Of Learning From The New Media"

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***Abstract*—**The use of information and communication technologies (ICT) is used in the classroom, identifying the factors that influence the teaching and learning process; in two public educational institutions in the municipality of Tuluá, Valle del Cauca, Colombia, from a Hermeneutic approach. The structural, behavioral and instrumental variables are examined for the study. A bibliographic sweep is made, related to the technological revolutions, the impact of the cyberculture and the educational use of the new technologies, in the same way it measures the perception of students, professors and parents or guardians, about the use of technological resources, access to the internet, attitudes towards the use of ICT for learning.

***Keywords*—**Information and Communication Technologies (ICT), Fourth Industrial Revolution, Cyberculture, globalization, Meaningful learning, Educational Revolution, Teaching and Learning.

I. Introduction

AFTER the first industrial revolution three waves of changes have been generated which have transformed the humanity in the last 200 years faster than in previous centuries and nothing seems to indicate that the process has ended, on the contrary, there are already experts who identify signals evident of a Fourth Industrial Revolution.

For Laura Charry. The Fourth Industrial Revolution "It is based on a concept devised in Germany whose government since 2013. It seeks to bring its production to a total independence of human labor, that is to say the automation

In the beginning, based on hyper-connectivity, in cyber-physical systems -the Internet of things-, or micro-manufacturing.

The impact that digital technologies of information and communication have been exerting, are producing deep socio-cultural mutations on aspects such as reality, space, time, man himself, his social relations in the fields of education, politics, science, industry and culture, taking steps towards a cultural transformation.

For Pierre Lévy, "virtualization has spread to different aspects of contemporary culture: body, text, economy and intelligence." We are giving way to cultural transformations, we take steps to "Cyberculture"

Kerckhove and Lévy, defines the Cyberculture as: "the third era of communication, in which a language would have been configured even more universal than the alphabet: the digital language. An era that would have followed those of orality and writing. "

These new communicational and technological challenges that require greater computing capacity, we could say that they have brought advantages in terms of the productivity of the industrialized countries with the access of products and services in a massive way and consequently in the socio - cultural gear, become pioneers and influencers of the global village.

In the case of Latin American countries at the gates of the fourth industrial revolution and advocated a cyberculture.

According to the World Economic Forum of 2018. They do not appear in any of the reports made, within the group of 100 countries capable of facing the change that is coming.

The reasons may revolve around the fact that raw materials are the basis of their economy, scarce investment in research, technology and education. In the case of Colombia, its local economies, and with them, the citizens, seem to be lagging behind in the technological career.

To break through among emerging countries, Colombia must stop being a consumer of technology to face this new challenge by taking steps towards investment in education aimed at technological innovation of information.

This inevitable evolutionary process will bring with it according to Sherry Turkle the irruption and extension of the new digital technologies, and very especially before the problems of identity posed by cyberspace, emerging new subjectivities that must be addressed from the school, which parallels the industrial and economic development have

[1] Prieto Sonia Cristina director of Educational Quality of Preschool, Basic and Media of the Ministry of Education.

[2] It is understood as the application of strategies and instruments based on technological actions that stimulate the intersubjective encounter, that is to say, putting the didactic in the context of the teaching and learning process.

[3] Vence. He states that: "Interactivity greatly differentiates the computational resource of other static and still dynamic media such as videos".

experienced their own educational revolution to live up to their social context.

For José Joaquín Brunner "the communication systems that support the teaching and learning processes put education squarely in the field of technology"

So for education is an important part which has to do with the management and the use of ICT about the world around us, about others and about ourselves.

Brunner says "Then, the problem for education today is not where to find the information but how to offer access without exclusions to it and to the meeting of Technology" (pg23).

Continuing with the previous section and understanding the needs of this era of cyberspace, the changes are recurrent and in times so ephemeral that years ago it was difficult to believe, so contributions to this problem will be of paramount importance in the construction of an idea more pedagogical and thus will be apology to the new challenges of language, the speed of information and the needs of a more visual generation, as Sonia Cristina Prieto puts it: "We are in a media society where we find some new ways of communication and with a greater number of messages, in this sense, the entire educational system must be oriented towards a better understanding of these languages and towards
the incorporation of these media in the classroom "[1]

Thus, the concern that permeates this research arises. Is the school linked to the new communication technology? And, in pedagogy and didactics, ICT strategies and instruments that dynamize educational work are inserted?

Despite attending postmodernity this possibility seems very remote, most public educational institutions in the center of the Cauca Valley suffer from the implementation of information pedagogies that encourage the creativity of the students, to exercise access to new knowledge, Contrary to the contingencies that weave the different information media and make it impossible to access varied research options, such as written, audiovisual, graphic sources, among others and, by extension, teachers, a fundamental reason for the dialogical process.

Its incipient technological approach and information media is meager despite the requirements of the Ministry of National Education, then think and train freethinking teachers who favor pedagogies linked to these media which didactize [2]the pedagogical task.

II. From the Fourth Industrial Revolution to the Pedagogical Exercise.

We are inside the denominated

«Fourth Industrial Revolution» that according to K. Schwab, founder and president of the World Economic Forum (WEF), is characterized by the "fusion of technologies that dilute the line of separation between the physical, the digital and the biological" (Schwab, 2015).

For PA. Pernias "These new technologies do not exert their influence in an individual way but, combining, they generate synergies that multiply their effect, and they do it in some unpredictable way". Thus affecting all aspects of life, but especially in relation to education, employment and the social construction that is made on it.

In this scenario described, for Morffe, Alexis. Education is subject to a process of revision and redesign, which ranges from the reason of being of educational institutions to the basic training that people need in their teaching and learning process, and the means used to do so.

From the previous perspective, we must begin to introduce in teaching practices new methods supported in constructivism and collaboration, contemplating the use of interactive media with some fundamental attributes, which distinguish them from traditional static media.

To: Luisa M. Vence P: The cognitive changes that technology is achieving have to do with three particular characteristics of these resources:

- The ease of having different representations of the same concept on hand.
- Instant communication and being able to actively relate them to each other.
- Interactivity[3] greatly differentiates the computational resource of other static media (L.M. Vence.2014 pg.8)

This historical moment is crucial both for education and for the future of young students, who must take on the challenge of facing a furo labor market in which the proper management of technologies and the ability to innovate in them will make a difference.

III. The pedagogical value of virtual media

The new information and communication technologies are not only Internet. When we talk about information and communication technologies we refer to the set of microelectronic, computer and telecommunications technologies that allow the acquisition, production, storage,

processing and transmission of data in the form of image, video, text or audio.[4]

In the last decade of the twentieth century, the use of computers and telecommunications was broadened, solving needs that human beings did not know they had, their use was extended to all social strata, especially in rich countries. Then the distance between creative countries - producers of this digital revolution, and consumer countries is getting bigger.

In the same way, the generation gap between digital migrants and digital natives is increasing. Phenomenon evidenced in the school. Space in which the teaching and learning needs are before two distant generational groups in their way of perceiving knowledge. On the one hand, the fast assimilation of young people to cyberculture, where several reflections are presented on the relationship of subjects in learning and the new forms and possibilities that technology facilitates.

Expressed by Levi "The continuous renewal of learning, work based on the transaction of knowledge and the possibility of modifying cognitive processes: memory (databases, hyper-documents, numerical files of all kinds), and the whole range of possibilities that virtuality offers ". Levi (1999).

The immediacy in which information is available to everyone does not mean that structured cognitive processes to compete in the labor market or academically are also.

Daniel Prieto Castillo, reflects on the need to add pedagogical value to each of the communication scenarios in which as teachers and students participate and in the need to open and recognize in students other instances of learning.

In all these cases it is sought to bring new technology to school and education in general, making available to teachers in the first place, but also to students and families, digital materials and resources that can support the teaching processes and learning.

For Brunner; the main recipients, so far, are the teachers, whose service you want to put the vast Internet world, pg 71)

Bearing in mind that the role of the teacher so that ICTs become part of the educational evolution is fundamental, since it participates in the process of generating knowledge together with the student. The effort of the teacher is focused on helping the student to develop talents and competences using new teaching schemes, which makes him a guide of the teaching-learning process. (Meso, 2010).

In January 2008, UNESCO published ICT competence standards for teachers, the document aims to serve as a guide for teacher training institutions (Universities, Ministries of Education, among others). This project presents a series of approaches to reform education through ICT literacy and deepen knowledge and skills for the development of educational innovation supported by ICT are: technological, communicative, pedagogical, research and management.

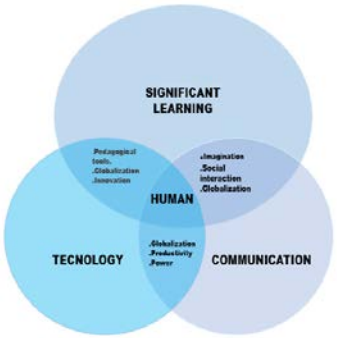

Figure 1 Triad
Source: self-made

Note: Image 1 tries to reflect the fundamentals of this research work, the cycle gear whose center of gravity is the human being in its environment rotate three large dimensions, which must maintain balance among themselves, to achieve technological, educational, social development and economic.

From the results there is an incoherence in this gear from the scope that communication technologies should have in education. Educators in some cases tend to use it in the classroom, while students criticize regulations for their use in classrooms and the lack of technological innovation in the teaching process of teachers.

IV. METHODOLOGY

The research is framed in the qualitative method, according to (Rodríguez Gómez, Gil Flores, & García Jiménez, 1998) "The purpose of qualitative research is to understand and interpret reality as it is understood by the participants in the contexts studied"

From the Hermeneutic approach defined as the theory and practice of interpretation (Álvarez, 2003) in this case, it is about identifying the reality in the natural context of the culture of the new media and its contribution to the pedagogical process, towards the mobilization of knowledge.

Interpreting according to the people involved, that is; the educational community of public institutions that favor the population of strata 1, 2 and 3. (Juan María Céspedes, and Industrial Technician, "Carlos Sarmiento Lora") of the city of Tuluá. From the impact it is generating in the teaching and learning process.

A variety of instruments were used to gather information such as interviews and discussions with groups of students, teachers, Coordinators and rectors in such a way that it was possible to identify epistemologies of these groups. The record of in-depth observations, in which the routines and problematic situations are described, as well as the meanings in the life of the participants.

[4] Definition From: Jorge H. Gutiérrez Martínez, Chapter III, New Technologies and the Future of Education, UNESCO, (Page 88) September Group Editor Printed in Buenos Aires. September 2003

V. RESULTS

The results presented are of a general nature and are the most significant that were obtained in the investigation. The same number of people in the two educational institutions were interviewed, discriminated in the following way:

A. A total of 6 teachers, 1 administrative per institution. The study revealed that they influenced the decisions of teachers for the use of ICT in classrooms, such as: access to technological resources, appropriation and use of technological tools.

B. 4 students interviewed, of different grades of schooling, for each educational center. It describes the perception that students have about the role of technologies in their training process.

C. 3 parents per institution, revealing their appreciation of institutional resources in ICT and students' skills in ICT knowledge for their use.

D. Accompaniment of 4 classes in each educational institution. The observation revealed the application of ICT in the classroom in the pedagogical process.

VI. ANALYSIS

Based on the results obtained in the work, the analysis focused on the following components:

A. access to technological resources,

B. knowledge, appropriation and use of technological tools of teachers and students,

C. perception of institutional resources in ICT

D. the perception of parents and students about the role of technologies in the training process for their use

a) The component of access to technological resources is unfavorable, it is manifested in the fact that the two educational institutions Juan María Céspedes and Técnico Industrial have an incipient connectivity program that only covers the systems rooms, students and teachers in the other subjects must use their particular service and in some cases the students hack[5].(piratean, term used in Spanish to steal internet or use it without permission) In this case, the appropriation of the tools by the students is favorable, there is a good degree of connectivity and use of the Internet in the home for school use. What allows them to keep an average connection, due to the availability of technological resources.

Table 1. Access to institutional technological media

ESUCATIONAL INSTITUTIONS	COMPUTERS	TV´s	INTERNET ACCESS
Juan Maria Cespedes	Three suitcases with 10 equipment each to attend 400 students (single day)	5 TVs in good condition and 2 out of service	1. Secretariat, administration. 1. Technology room
Use	Technology classes	Video playback presentation of slides	-Exclusive use of the administration and
	Classes of techniques 10° and 11°	and workshops	the systems room. -Extracurricular social networks are used
Técnico Industrial school	Three rooms equipped according to the specialty to serve 600 students	4 televisions located in classrooms	1. Secretariat, administration. 1. Technology room
Use	Exclusive use of systems rooms	Video playback presentation of slides and workshops	Exclusive use of the administration and the systems rooms

Note: Corresponds to the observation list, Source: Own elaboration

Table 2. Institutional internet access

Educational Institution	# Teachers who use institutional internet	Teachers who do not use institutional internet	# Students who use the internet	# Students who do not use internet
Juan Maria Cespedes	1 for technology class. 1 To load up the students 'grades to the platform	3 It is not necessary for the classes. 2 Staff use them for some classes	"we access without authorization to the network" for personal use	It is not necessary for school use
Tecnico Insdustrial school	2 for technology class	4 There is not connectivity in the classroom. 1 I do not use technologies, or mobile devices	4 Only in the classes of the technological areas	2 Its access is limited. 1 I have my own data plan

Note: Corresponds to question 3, of the questionnaire. Source: self-made

Table 3. Internet availability on the mobile

Mobile Internet	#Teachers School use	#Teachers Personal use	# Teachers Others	# Students School use	# Students Personal use	# students Others
Juan Maria Cespedes School	3 for academic reports on networks 1Review the applications worked with	6 The use of the cell phone and the data are their own, the priority of their use is personal	1 I only answer calls, the connectivity I use is from	1 I make consultations on my own initiative. 2 I do the activities of	5 The telephone is only for interpersonal relationships. 2 I make the	I do not have internet on my cell

[5] Piratean: term used by students to define deciphering the Internet key for use without authorization from the institution

	students 1 Download class information	and family.	home	the English apps	consultations at home	phone
Tecnico Industrial School	1 For academic reports on networks	6 The use of the cell phone and the data are their own, the priority of their use is personal and family.	1 I do not use a cell phone	3 To communicate with classmates	6 It is for personal use and for interesting things	1 I do not have a cell phone

Note: Corresponds to question 5 of the questionnaire. Source: self-made

The limited resources are a great impediment to integrate the use of ICT to education. Educational institutions give teachers little time to become familiar with ICT, they do not provide network support. In the case of students, the institutional limitations to access connectivity and the teams discourage their ability to experiment in laboratories to generate innovation.

b) The knowledge, appropriation and use of technological tools of teachers becomes a fully self-taught act. For this reason, the implementation of technologies in classrooms depends on the understanding, skills and attitudes of teachers towards them.

Teachers recognize the importance of ICT in terms of access to information and in their daily lives, but do not include them in pedagogical proposals. In this way, we continue with a position of resistance to the integration of information technologies as a teaching tool,

The learners consider that technologies as necessary for the learning process show that ICT resources favor the acquisition of new knowledge, but warn that their ICT skills are a product of their individual and totally extracurricular interests.

That is to say that the skills in the use of technologies have for young people very different from the process of school knowledge, its relevance is in the media interactions and determined by the trends that social networks request them.

It should be noted that the vast majority of students of technical media articulated with the NATIONAL LEARNING SERVICE[6] (SENA, by its acronym in Spanish) intend to enter the labor market as labor or non-skilled labor, depending on the specialty in which they will receive technical qualifications.

c) The students' perception of ICT resources is unsatisfactory. They consider the computer rooms as deficient, taking into account that the number of students per computer in some cases could be three in a class, and in terms of connectivity they think that it should have restrictions but, its use should be extended to the others knowledge subjects ceasing to limit it exclusively to technology classes.

It should be clarified that in both institutions the interest of the administrative body and the teachers is shown by including ICT in the teaching methodologies in the INSTITUTIONAL EDUCATIONAL PROJECT[7] (PEI, by its acronym in Spanish) Although it is latent that the perception of this institutional resource is considered limited. Three teachers use applications, social networks, and platforms, among others for their teaching work.

d) The perception of parents and students about the role of technologies in the training process for their use, is favorable for the acquisition of knowledge compared to traditional teaching.

According to the interviewees, it is the school that has the responsibility to prepare the technological and communication skills that allow young people to cope with a future career.

Table 4. Pedagogical practice and ICTs.

CATEGORY	SCHOOL	PARENTS
ICTs and school practices (questions 2 and 4)	Tecnico Industrial school	Most parents say they realize the use of technology and media in the process of teaching and learning. It is noteworthy that a single parent responds that he is not reflected and that his son does not see it evidenced
	Juan Maria Cespedes school	Most parents recognize the use of technology and communication media within the academic process that is reflected in everyday life

Note: Corresponds to questions 2 and 4 of the questionnaire. Source: self-made

Table 5. Role of technologies in the training process.

CATEGORY	SCHOOL	PARENTS	STUDENTS
ICTs AN AUTONOMOUS LEARNING	TECNICO INDUSTRIAL SCHOOL	Some parents mention the use of consultation platforms and social networks as instruments used by their children at home for their educational process It should be noted that parents do not discriminate the educational process of their children's social relationships	Power the know-how, generates more interest. As long as they are used well. You learn more by observing than by writing
	JUAN MARIA CESPEDES SCHOOL	Social networks is the second element used to continue with the educational process. A parent emphasizes the use of educational application in the extra-curricular work of his	You learn in different ways. It has several options. Power the difference of knowledge. there is a greater

[6] SENA: National Service of Learning
[7] Institutional educational project

		son	concern to learn, not so much to seek information

Note: Corresponds to questions 2 and 4 of the questionnaire. Source: self-made

The previous thing is moving to the education to have great transformations in the society, where the ICTs are the promoters. The way in which they relate, organize, work and perceive the world, representing not only remarkable variations in the generation of knowledge, skills for the solution of complex problems, critical thinking and creativity, has also generated cultural changes that promote the consumption of technologies, but is notoriously removed from a process of enhancing or producing innovation in it.

VII. CONCLUSIONS

This work confirms that students integrate technologies in their learning process, but in isolation from the school process. Elizabeth Muñoz (student) states: "In some classes the use of cell phones is absolutely forbidden, while other teachers handle applications for the exercises of the topics is fundamental, so, for some is the worst enemy for others the best tool"

Taking the words of (García Romero and López Hernández, 2011). "I complain to students because they do not use knowledge-based tics, only in aspects such as games that supposedly generate pleasure" is worrisome to see that in the range of opportunities offered by tic. To the learning process of young people the vast majority produce materials of low intellectual process.

Thus, it is necessary to generate teaching strategies that motivate and guide the teachers of the two institutions who are the object of this research, in the implementation of didactic-pedagogical activities based on ICTs that make it possible to demonstrate progress in the knowledge produced by the processes in the classroom.

For the imaginary of educational institutions, teachers, students and parents (parents), the use of ICT allows education to be transformed in a positive way creating great opportunities for the reach of knowledge. With projections to future job opportunities, but its implementation continues to be postponed. Justified by the administrators with reasons such as the lack of state investment in equipment, connectivity, teacher training.

The general sensation of change that we have been perceiving during these last times before the appearance of a fourth industrial revolution and with it a cyberculture, that the school has not managed to process and which has been called to face problems such as those pointed out by Pedro A. Pernías Peco "65% of children who start school today will end up in jobs that have not yet been invented."

The educational models must adjust their learning processes, developing attitudes and practices that encourage a new formative vision, in an environment characterized by a global capitalism in which the processes of

Teaching and learning will have to unfold, accompanying the transformation of societies into dependent systems of information flows ICT.

Colombia has established the Ministry of Information Technologies and Telecommunications (ICT), in search of reaching the level of emerging countries and with the demands of the international economy. That is why its functions include increasing and facilitating the access of the inhabitants of the national territory to ICT and its benefits. For which it has made articulations with the Ministry of National Education and some private cellular telephone companies. In order to train in the use and exploitation of platforms for teachers in the country.

Despite the fact that the educational updating process in education, timidly began more than ten years ago its reach has been minimal, problems such as the limited number of trained teachers, lack of connectivity, resistance to change and the way to assume ICT (as another resource for teachers).

According to: J. Vignola, F Pardo M & P. Peris G "In order to really become a tool for learning (and not only for teaching, that is, not just as a resource for teachers), it is necessary consider them also as an object of learning "(page 19). Thus, the invitation to update and include in the curriculum arises.

In this way they would approach the fourth educational revolution.

Chris states that; "To achieve a large-scale change in the practice of teaching, it is necessary that many more teachers change their pedagogical approach and that substantial changes are made in school administration, the institutional structure and relations with the community."[8]

The picture does not seem easy, as ICTs are moving at speeds that are difficult for educational environments to reach, being most noticeable in public institutions, to the point that the most innovative of today very soon becomes obsolete, leading us to a permanent update in this thematic, but parallel to the technological advance is the slow cultural assimilation leading some educational communities to be mere consumers and spectators of cyber-socioeconomic change. With the aggravating circumstance that the generations that start their training process will have few opportunities to compete in the labor market of the future.

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