

Las Tecnologías de la Comunicación, ¿Incorporación/Exclusión Educativa en Guanajuato?

*The Technologies of the Communication, Incorporation / Educational
Exclusion in Guanajuato?*

Technologies submissão, Inclusão / Exclusão Educação em Guanajuato?

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Resumen

El acceso a la información se está convirtiendo en uno de los derechos de la ciudadanía del siglo XXI, México es uno de los países donde más del 50% de los hogares no disponen de una computadora, así como más del 60% de los mismos no tienen acceso al Internet desde su hogar, condición que provoca el distanciamiento (brecha) entre los que cuentan con el equipo y el servicio y los que no, pero el presente problema se abordará desde dos vertientes, la primera que tiene que ver con la parte de la infraestructura, es decir, equipos personales, servicios de internet, energía eléctrica y el segundo orientado a los factores social y económico. Es cierto que México es un país de una Economía emergente, condición que provoca que no se cuente con la infraestructura nacional necesaria para poder llevar la conectividad a todos los rincones del país, pero también se debe de considerar las condiciones económicas de la sociedad, en un país donde el salario mínimo es de \$73.04 pesos diarios, condición que limita la adquisición de tecnología (lujos), y al mismo tiempo contradictorio con el comentario del Doctor Rodríguez, el cual menciona que en la actualidad los seres humanos respiramos oxígeno y tecnología, lo que provoca que esta brecha cada vez se vuelva más pronunciada, de ahí la interrogante las Tecnologías de la Comunicación son un medio para incluir o excluir a un sector de las sociedad.

Palabras Clave: Tecnologías de la comunicación, desigualdad social y economía, Brecha digital, acceso a la información.

Abstract

Access to information is becoming one of the rights of 21st century citizenship, Mexico is one of the countries where more than 50% of households do not have a computer, and more than 60% of them do not have access to the Internet from home, a condition that causes the gap (gap) between those who have the equipment and the service and those who do not, but the present problem will be addressed from two sides, the first that has to do with the part of infrastructure, ie personal computers, internet services, electric power and the second oriented to social and economic factors. It is true that Mexico is a country of an emerging economy, a condition that does not have the necessary national infrastructure to bring connectivity to all corners of the country, but also the economic conditions of society, A country where the minimum wage is \$ 73.04 pesos per day, a condition that limits the acquisition of technology (luxuries), and at the same time contradictory to Dr. Rodriguez's comment, which mentions that at present humans breathe oxygen and technology, Which causes this gap to become more pronounced, from there the question of Communication Technologies are a means to include or exclude a sector of society.

Key Words: Communication technologies, social inequality and economy, Digital divide, access to information.

Resumo

O acesso à informação está se tornando um dos direitos de cidadania do século, o México é um país onde mais de 50% das famílias não têm um computador, e mais de 60% deles não eles têm acesso à Internet a partir de casa, uma condição que faz com que a distância (gap) entre aqueles que têm o equipamento e serviço e não, mas este problema será abordado a partir de dois aspectos, o primeiro tendo a ver com a parte infra-estrutura, ou seja, computadores pessoais, serviços de internet, energia elétrica e as segundas factores económicos e sociais orientadas. É verdade que o México é um país com uma economia emergente, uma condição que não faz com que têm o necessário para levar a conectividade a todos os cantos da infra-estrutura nacional de um país, mas também deve considerar as

condições econômicas da sociedade, um país onde o salário mínimo é de \$ 73.04 pesos por dia, uma condição que limita a aquisição de tecnologia (luxos), e ao mesmo tempo contraditório com o comentário do Dr. Rodriguez, que mencionou que hoje os seres humanos respiram oxigênio e tecnologia, fazendo com que esta lacuna se torna cada vez mais pronunciada, daí a pergunta Tecnologias da Comunicação são um meio para incluir ou excluir um setor da sociedade.

Palavras-chave: Tecnologias de comunicação, a desigualdade social e economia, fosso digital, acesso à informação.

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Introduction

ICT has enabled society to be informed more efficiently and rapidly, a condition that has been improved with the inclusion of electronic media in Information and Communication Technologies, but not only has this been achieved, but also Must consider that the incorporation of ICT to society has caused, subjugated to a techno-dependent society on the one hand, as well as incorporation and exclusion by the other. Hence, when talking about the incorporation of ICT in society (Work, Education, Entertainment, etc.), we must consider several aspects that, just as even a certain social group has allowed it to incorporate and benefit from them, on the other Side, is a social group, which has presented a great wall, which has led to social marginalization and inequality.

In the present investigation is delimited to the State of Guanajuato, this is deduced of several factors: The first one that has to do with the context of the investigator; The second is the excessive industrialization of the last years to the state (specifically in the shallow); And the third is that the state is located in the last places of educational coverage, in regard to Higher and higher.

In addition, it should be mentioned that the temporal delimitation based on the National Survey on the Availability and Use of Technologies of 2015 (ENDUTIH 2015).

ICTs have become indispensable in society and of growing importance. The concept as such of ICT emerges as a convergence between the technology of electronics, software and telecommunications infrastructure. In a modern society the integration of these three resources gives rise to a new conceptualization of the communication and transmission of information, which provides horizons and paradigms. In the present discourse, a course (Contextualization) on ICTs (as an influential element), as well as statistics from ENDUTIH (The National Survey on the Availability and Use of Information Technologies in the Households) of 2015, To know on average the resources available to Mexica society.

ICTs

The incorporation of ICT (Information and Communication Technologies), go back to the man from cromagno, which printed the first signs in bone, since then can be argued the existence of ICT, much and most new generations , This term is associated with an electronic device, but it should not be forgotten that the technologies that existed at the time, were only stones and bones, which were sharpened against each other with these symbols Is that the process of information and communication of the Cromañones and Neanderthals began.

But if the communication process is concerned, it can be presumed that it had its beginnings previously, since it can be summarized to the communication as a bilateral process, a circuit in which more than one person is interrelated and interact, through the use of Symbols, sounds or signs known to them (Freijeiro, 2006).

ICT can be defined as those technologies that facilitate the creation, manipulation and distribution of information in social, economic, political and cultural events that reinforce the context of the information and communication society. In addition, there is a series of historical influences, which make it responsible for the change of mentality that has been making the human being from the archaic. ICTs play a key role in shaping and structuring

society, thus appropriating information and stimulating new trends that modify human behavior.

ICT in the fifteenth and twenty-first centuries

With the arrival of printing in the year 1440 by the German Johannes Gutenberg, which encouraged the communication process, since this made the process of reproduction of the texts that informed the society about the events more efficient, to mention an example Creation of the newspaper. But it was not until the nineteenth century, in the year 1835 when communications lost the notion of physical space, with the emergence of the Morse code, which served as the basis for the creation of the binary code and in 1837 the world was shown the Telegraph and in 1876, the precursor of the current ICTs "El Teléfono" was born.

In the year 1900, the telephotography was born that gave rise to an electromagnetic transmission of images and sound, called "television" and from there great innovations arise, the camera and the cinema. And so on, different innovations were made to existing technologies, as can be seen in Figure 1, from the year 1447, with the arrival of the printing press until 2000, with the Tablet, the world has traveled through a series of Articles that have allowed him to transmit information increasingly to a greater number of people and inversely proportional to the reduction of costs.

Figure 1. Chronology of ICT.

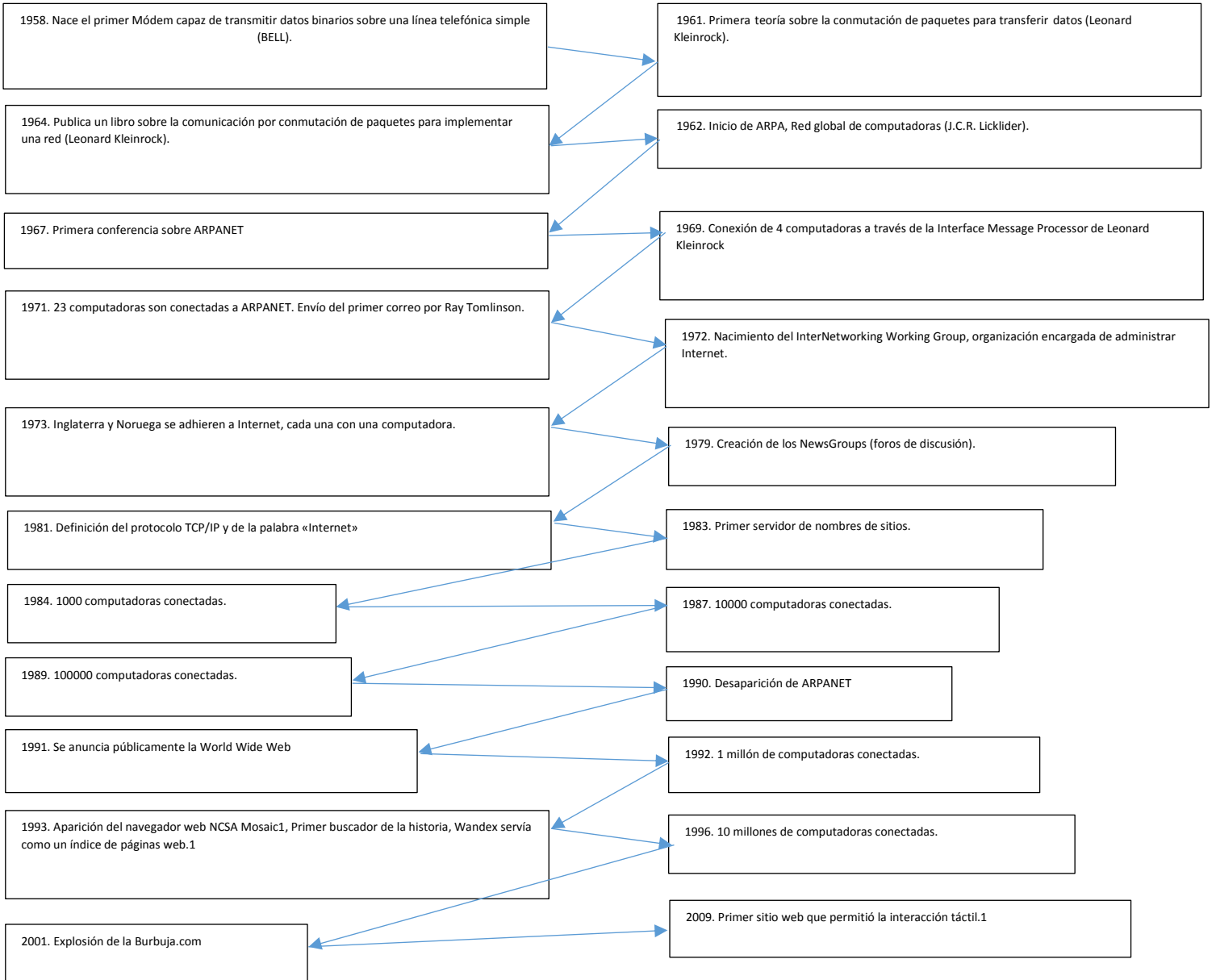


Fuente Original: Vicente Cisneros, 2017

Another important aspect to consider, not only has to do with the evolution of technology, although you were very transcendental in the evolution of the modern era, you can not leave aside its complement which serves as a means for you to be Figure 2 shows the evolution from the year 1958, when BELL, manufactures the first Modem capable of

transmitting binary data through a simple telephone line, until the year 2009, when it was achieved The first Web site capable of tactile interaction.

Figure 2. Evolution of the ICT interface.



Fuente Original: Vicente Cisneros, 2017

Once the evolution of ICTs, as well as the means with which they are supported for the transmission of the information has been addressed, will proceed to delimit and contextualize the state of Guanajuato (2015-2017), reason of the present investigation , So it can be stated that Guanajuato is one of the states that make up the United States of Mexico, the boundary boundaries are: to the west with the state of Jalisco; North with the states of Zacatecas and San Luis Potosi; This with the state of Querétaro; South Michoacán. It has a territorial extension of 30,608 km², which places it as the twenty-second place in territorial extension. In addition, it is divided into 46 municipalities, where the main ones are Leon de los Aldama, San Miguel de Allende, Celaya, Irapuato, Cortázar, Salamanca, Uriangato, Dolores Hidalgo, Silao. And Guanajuato, where the latter functions as the state capital.

In Table 1, it can be observed that the total population of the State of Guanajuato is approximately 5.5 million inhabitants distributed in its 46 municipalities, with an average age of 24 years, as well as a total of 1,266,772 homes which on average indicates a Total of 4.3 people per house, besides having a high degree of dependency which is superior to 50%, that is to say, the state counts on more than half of the population that is between the minors to 15 years and majors to 65 , Which causes that only 40% of the population is of productive age.

Another of the very important factors to consider in the state and which is very contradictory to the ENDUTIH (The National Survey on the Availability and Use of Information Technologies in Households), can be verified with the number of homes that have access to Computers and the internet, that if you look at the ownership of a cell phone, more than 60% of homes have them, although it would be worth asking Do you know how it works? Is your main use academic? What is its main function ?, hence you can not lose sight of the fact that the main gateway to modern ICT have to do with computers and the internet and as far as the state is concerned, only a scant 15% Of the homes have internet access.

Table 1. Population and housing of the state of Guanajuato.

Concepto	Estatal
Población	5,486,372
Edad Media (años)	24
Total viviendas	1,266,772
Promedio de habitantes	4.3
Razón de dependencia	59.70%
Viviendas c/teléfono	42.28%
Viviendas c/celular	61.20%
Viviendas c/computadora	23.83%
Viviendas c/internet	15.92%

Fuente: Vicente Cisneros López con datos de: Secretaría de Educación de Guanajuato (SEG) con información del Instituto Nacional de Estadística y Geografía (INEGI), Censo de Población 2010.

Discussion

One of the important axes in governments has to do with Education, which in the Constitution of the United Mexican States, is regulated by Article 3, which the letter mentions "Every individual has the right to receive education. ... The education provided by the State will tend to harmoniously develop all the faculties of the human being and will foster in it, at the same time, the love of the Fatherland and the awareness of international solidarity, independence and justice, This in the speech is understandable and correct, but in reality what is played, far from this, in Table 2 and graph 1, it can be observed that in Mexico what is invested in education is below the average of the OECD (Organization for Economic Cooperation and Development), which makes it difficult for teachers to do daily, as well as for students. In Mexico there is a great educational gap and the state of Guanajuato is no exception, a situation that will be addressed Later on, the current conditions of Education in the country regarding GDP (Gross Domestic Product) will be argued for the moment and as mentioned in Table 2, we can observe the investment that has been made By the State from 1998 to 2012.

Table 2. GDP of Mexico vs School Enrollment.

Año ⁽¹⁾	% México ⁽²⁾	% OCDE ⁽³⁾	PIB Mexico (Miles de millones de USD) ⁽⁴⁾	Educación ⁽⁵⁾	Salarios ⁽⁶⁾ y remuneraciones	Diferencial ⁽⁷⁾ (infraestructura)	Matrícula ⁽⁸⁾ en promedio	Asignación promedio en USD ⁽⁹⁾
1998	3.53%	4.57%	502	17.71558	16.30	\$1.42	28589866	49.57
1999	3.66%	4.64%	579.5	21.22129	19.52	\$1.70	29105533	58.33
2000	4.13%	4.87%	683.6	28.260024	26.00	\$2.26	29621200	76.32
2001	4.43%	5.11%	724.7	32.089716	29.52	\$2.57	30136867	85.18
2002	4.64%	5.26%	741.6	34.395408	31.64	\$2.75	30652534	89.77
2003	5.19%	5.08%	713.3	36.998871	34.04	\$2.96	31168201	94.97
2004	4.80%	5.29%	770.3	36.9744	34.02	\$2.96	31683868	93.36
2005	4.91%	5.12%	866.3	42.518004	39.12	\$3.40	32199535	105.64
2006	4.75%	5.04%	966.7	45.908583	42.24	\$3.67	32715200	112.26
2007	4.73%	4.87%	1043	49.37562	45.43	\$3.95	33220312	118.90
2008	4.86%	5.09%	1099	53.38942	49.12	\$4.27	33725424	126.64
2009	5.23%	5.39%	895.3	46.797331	43.05	\$3.74	34230536	109.37
2010	5.30%	5.47%	1052	55.73496	51.28	\$4.46	34735648	128.36
2011	5.15%	5.19%	1170	60.3018	55.48	\$4.82	35240760	136.89
2012	5.20%	4.94%	1186	61.672	56.74	\$4.93	35745871	138.02

Fuente: Vicente Cisneros López con datos de: Instituto de Estadística de la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO) y del Economista.

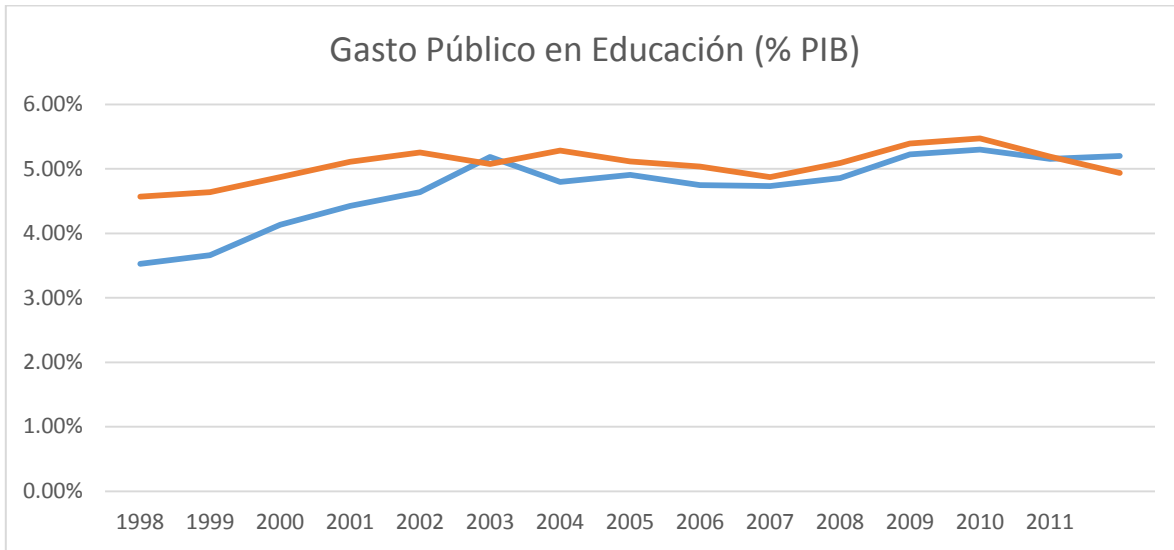
And as can be corroborated, it has never been able to surpass the digit in column (2), while in column number (3) the average of the OECD can be observed, which in its great majority is always superior to the one of Mexico, which puts the system at a disadvantage compared to the other countries incorporated in the same body, but in many cases, not to mention that in the majority the percentages give an excellent reference, to be more precise in column (4).) Shows the behavior of the GDP since 1998, which shows a growth of more than 100%, as well as a growth in investment of more than 40%, while enrollment has only increased by more than 25%, which should place Mexico as an ideal system for Educandos. But the reality is another, according to Lagner of the Economist in his article "Mexico, the country of the OECD that pays its teachers the most" mentions two very contradictory aspects "In the report" Panorama de la educación. OECD 2014 Indicators, "which comprises 34 member states, reveals that at the highest level of the salary scale primary and secondary teachers with the highest qualifications earn around 50% more than teachers with similar experience But have only qualifications. (LANGNER, 2014) While on the one hand the report mentions that teachers of Basic Education can earn up to 50%

more than their counterparts in the organization, it also mentions the contradictory, that is, Mexican teachers with an initial place, His salary leaves much to be desired with respect to those of other member countries of the organism.

Hence, when the teachers begin to work in the guild, many of them are desperate to obtain a competitive salary to their work, and that allows them to have a dignified and comfortable life, at the moment of not achieving that economic stability, causes that The vast majority of them find themselves in the need to look for other alternative jobs that help them to solve the economic conditions (double occupancy, classes per hour in other schools, teaching courses) and that is therefore directly reflected in the quality of the Teaching, since the time that should be used for the preparation of academic activities is used in the development of other activities that contribute to the precarious conditions of the salary they receive. In addition to this, it was possible to show that due to the economic income of teachers is not allowed the acquisition of technology condition that ends up being reflected in the classroom, with a traditional pedagogy and didactics.

In addition, in Graph 1, we can observe and reinforce what was previously commented on, in the blue line shows the behavior of the investment of the GDP of Mexico to the Education, while in the line of brown color, the average of the OECD, and where it is possible to clearly identify the differences that exist with the other member countries, as well as the vulnerability of the system.

Graph 1. Public expenditure on education as% of GDP (Gross Domestic Product).



Fuente: Vicente Cisneros López con datos de: Instituto de Estadística de la Organización de las Naciones Unidas para la Educación, la Ciencia y la Cultura (UNESCO)

It should be noted that many of the young dependents (under the age of 15), come to have contact with the ICTs in the educational institutions, and as already mentioned if the teacher does not have the necessary resources for their acquisition, this impacts Directly in our teaching practice and in the student's interaction with Information and Communication Technologies.

Another important aspect to be mentioned in the present discourse has to do with Education offered by the State versus the Private and this is evident from the large part of the educational enrollment that you are incorporating and which mean a discharge of the Public Education System, In Table 3, it can be seen that of the total enrollment of 32715200 Educandos, 4341700, which represents more than 13% of the total national enrollment, which should be reflected in the Public system (Infrastructure, Salaries, Benefits), That is, in considerable improvements.

Table 3. Education expense vs tuition.

	Gasto Educativo (millones de pesos)			Matrícula (Millones alumnos)			Diferencia % cambio y % crecimiento
	2000	2006	% Cambio	2000	2006	% Cambio	
Nacional	452551	531269	17.4	29621.2	32715.2	10.4	6.9
Pública	354185	406830	14.9	25945.6	28373.5	9.4	5.5
Privado	98366	124438	26.5	3675.6	4341.7	18.1	8.4

Fuente: Vicente Cisneros López con datos de: Secretaría de Educación de Guanajuato (SEG) con información del Instituto Nacional de Estadística y Geografía (INEGI), Censo de Población 2010.

In addition, it can be mentioned that the GDP growth (Gross Domestic Product) of the country from 1998 to 2012 has manifested itself in an increase of more than 130%, as well as the proportional investment in Education that in 1998 was of little 3.53%, while in 2012 it was increased to 4.94%, which represents a 47% increase, while enrollment in the education system shows a slower growth of approximately 25%.

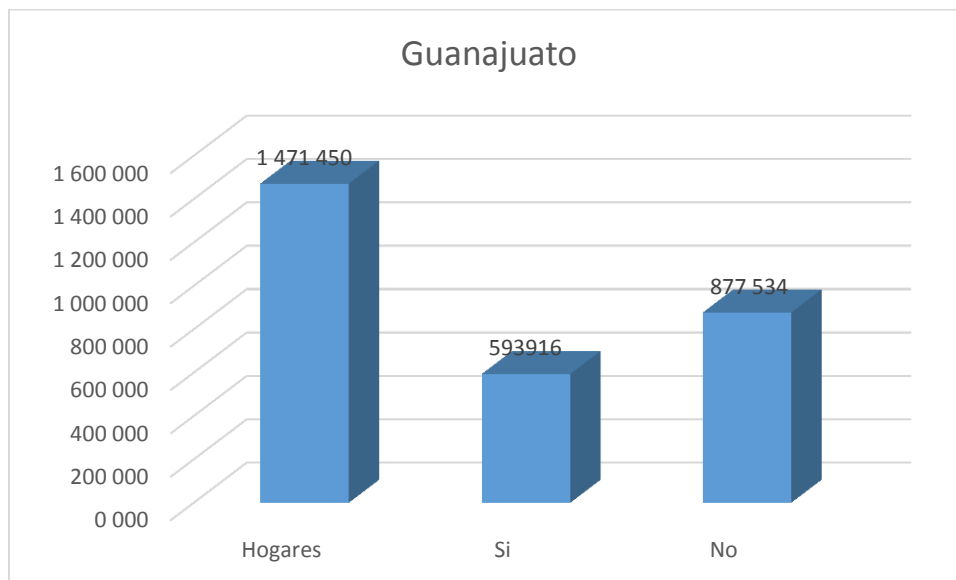
It could be presumed, that the greater investment¹, An improvement in all aspects of education (coverage, facilities, teachers, infrastructure and technology), this last reason of the analysis and discourse of the present, there being a greater investment could be a considerable improvement in physical equipment, technology, teacher training, access To physical and digital libraries, computer centers with internet. Condition that would suppose technological classrooms, that would provide the means for a better teaching practice, as well as an approach of the ICTs with the students.

¹ Inversión. Entiéndase como mayor inversión al capital efectivo que realiza el Estado en el sistema Educativo, es decir en el año de 1982 la inversión del país era de 502 mil millones de dólares, mientras que en el 2012 era de 1186 mil millones de dolores, esto representa una inversión de más del 100%.

Conclusion

Once we have analyzed the conditions to which the Educational Institutions are subject and the investment in the Education system, we will conclude that this is what really happens in our country (Mexico) and specifically in the State of Guanajuato, in The ENDUTIH (National Survey on the Availability and Use of Technologies in the Homes, 2015), one can observe the great reality that is lived, specifically the state of Guanajuato, where more than 50% of households do not have a computer (See Figure 2), to facilitate their learning, research and entertainment activities. And if we add to this that the average number of inhabitants per household in the state is 4.3 (see Table 3), the condition becomes more serious.

Graph 2. Homes with computers in the State of Guanajuato.



Fuente: Vicente Cisneros López con datos de: ENDUTIH (La Encuesta Nacional sobre Disponibilidad y Uso de las Tecnologías de la Información en los Hogares, 2015.)

And why it is manifested that the problem is much more serious, since less than 50% of the homes have computers and of these, on average is inhabited by 4.3 inhabitants, which means that less than 25% of its inhabitants Have a team, which means that approximately 12.5% of the population has computer equipment, and if these are added to the other factor of great impact in Communication and Information Technologies, ie the channel Most importantly, by which computer equipment is connected to the network of networks called

the internet, only 15.2% of households have a connection, which generates a large communicative gap between students who have access and those who do not .

So a question arises, which is what is happening in Mexico, when you are considering an emerging economy and the invitation has been made to transnational companies to invest, since there is infrastructure, qualified personnel. This can be directly related to the Educational System, responsible for providing qualified personnel and the State as provider and facilitator of both physical and non-physical (wireless) conditions, and to this a question jumps that exists between the State and the Educational System , With the inclusion / exclusion that the company has to a quality, reliable, timely and verifiable information ...

The existing relationship between the three elements is evident from the little or no analysis that the educational institutions and the State are carrying out with the incorporation of ICTs in the educational models, as well as an implementation of an alternative that favors the learning to the Educating and that will be reflected in the society, which from the position of the one that subscribes is very viable provided it is with a complete and efficient infrastructure, which leaves much to be desired. In the State of Guanajuato there is talk of a delivery of more than 12,000,000 tablets at different educational levels, this in search of incorporation into the Technologist society of students, where in Basic Education have been delivered both students and teachers , While in the upper and upper secondary education you have only been given to the students, from there begins with a process of exclusion, the intentionality of delivery of the tablets, was that of inclusion, but with the exclusion of Teacher that makes pedagogical didactic strategies difficult, that facilitate and minimize the digital divide.

In addition to this is the other part of the use of the Technologies that has to do with the training, which all teachers of Basic Education were not given any course for the implementation of these tablets to their daily activities and Education Media Superior in specific to the teachers of the Video Course of the UVEG (Virtual University of the State of Guanajuato), to these if they were given a training, that is to say, there is no tablet but if

training, and the teachers of Higher Education neither training nor Tablet, which causes very discrepant scenarios between what to do of students and what to do teachers.

Continuing with the speech, will now address the core state of the process of incorporating Information and Communication Technologies, investment in recent years in Education from 1998 to 2012 has shown an increase of more than 100%, with respect To Gross Domestic Product and in turn has shown an increase of more than 100%, while enrollment has only shown an increase of 25%. And if we add to this the increase in the participation of Private Education in more than 13%, reason why it is possible to be mentioned that the inclusion of the Educandos to the Public Educational Institutions through the TICs, has not had the impact And this is evident from the poor analysis that was carried out and which was only treated and continues to be a panacea, in the belief that they have to solve the technological inclusion, with strategies of little impact and isolated, as long as we do not define a A global strategy capable of including Educational Institutions, Society, Students and Infrastructure, the indicators will continue to be kept at critical levels as already observed.

In the State of Guanajuato, transnational and national companies have been offered qualified and qualified human talent, at a low cost, which has caused a large part of our society to have a job with a very unattractive salary that prevents His family provide him with the minimum elements necessary to aspire to a Quality Education, but in this great theater of Education, the State and Organizations (Triangle of Sábado), who is interested in the new generations are immersed in the world of Technologies that allow them to know international events, environmental impacts, migration to other countries, job opportunities offered by the same companies in other places, when all that is required to know the basic management of equipment and machinery that Organizations have, as well as the alignment to the socio-political interests that the hegemonic class has marked.

Therefore, the implementation of ICTs in the State of Guanajuato and based on information from the SEG (Secretary of Education of Guanajuato) and INEGI (National Institute of Statistics and Geography), mentions that more 95% of the economically active population is working, but it should be noted that more than 40% of them are traders and in-service

workers, which means they have little purchasing power to incorporate computers and the Internet in their homes. That in the State of Guanajuato ICT has caused the exclusion of one segment of the population, while another smaller fraction has allowed them a form of limited inclusion...

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