# **TEACHING ACTIVITY WITH ICT: perspectives on a regular high**

# school in Bahia

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# Abstract

The teachers of today are inserted in a technological era that provokes them to review their methodological practices. Information and communication technologies (ICTs) is an instrument, although it is not a recent issue. But it is able to offer learners new possibilities for learning. The teacher is based on mastering this tool. The teaching units together with the public managers must subsidize with adequate infrastructure in both hardware, software, internet, applications as well as continuous training. However, many teachers, even though they have received adequate knowledge to deal with the interactive media in the classroom and thus convey new meaning to teach, tend to remain with the old models of teaching and learning. The students are against it. The aim was to understand the apathy, incompleteness or frustration regarding the use of technological media in the classroom of a public high school in the city of Senhor do Bonfim-BA. The research was conducted, preferably, on the night shift, in June, through a questionnaire applied to 18 teachers (100% of the sample). In order to answer the problem: Is teaching time a factor that contributes to the non-use of ICTs in school? The results showed that most of the faculty has more than 20 years of teaching. Another important factor was the infrastructure still to be desired, and both the handsets and the network connectivity are not satisfactory. The data show that the teaching time is a negative factor, considering that they are not teachers who were born of the technological culture.

Keywords: education; information technology; teaching; internet.

# 1. Introduction

Teachers every day deal with young people tuned to digital media because they spend more time interacting on the internet. They prefer to strengthen social ties through the network. They are more online than offline. This is a constant. It is part of the culture of this new generation. The teacher must learn to deal with it. Teachers with non-innovative teaching and learning practices experience considerable difficulty.

Information and Communication Technologies (ICTs), present in all environments [1]. This promotes

various structural and cultural changes in schools. The young people are more restless and the teachers astonished at the insertion of the media in the classroom, like the cellular device. The affliction is normal because they did not receive the digital culture.

From the perspective of the world, the ICTs had great impetus even in the twentieth century. The transmission of knowledge from that moment on occurred in an accelerated way. As new technology ideas were created, new hardware and software features were created at the same pace.

The progress of technology over education has been taking place in proportion to technological advances [2]. He began to break the old language of teaching and learning. Countries implement their education systems with laws and decrees, the introduction of computers in schools, the emergence of social networks. Full connectivity. The internet globalized digital customs.

Humanity is on a new level of transformation [3]. ICTs have transformed the way everyone thinks and interacts with the world. Technology has changed the structures of thinking and doing. Knowledge changes at every moment and the idea that the world and time are shortened are pertinent. Education must be resumed. To seek a new meaning for the pedagogical doing. Teaching should be dynamic as well as developing in students complex, polysemic thinking. The skill required by the technological context. However, there are still educational standards of linear, fragmented teaching.

The technology revolution must promote a revolution in education. The school needs to respond to the wishes of young people and society, in view of the requirements to reach new skills [4]. of new knowledge between students and teachers. Both need to be artificers of knowledge.

The transmission of knowledge in the classroom is indispensable as long as it is with the development of teaching methodologies with an emphasis on ICTs. Didactic resources, when explored, allow for the apprehension of contents more quickly, since it still develops both teachers and students multiple skills by virtue of collaborative work. The teacher facing good infrastructure and adequate training can make the classroom a virtual environment. And so, it approaches the reality of the students, since each cultural period is linked to a technological context [5]. In light of what has been shown, this research aims to understand the apathy, incompleteness or frustration regarding the use of media in the classroom in a public high school in the city of Senhor do Bonfim-BA. The research was conducted, preferably, on the night shift, in June, through a questionnaire applied to 18 teachers (100% of the sample). In order to answer the problem: Is teaching time a factor that contributes to the non-use of ICTs in school?

#### 2. Information And Communication Technologies In Education

Information and communication technologies-ICTs have come to promote a profound change within the school. This is inevitable because the use and insertion of new information technologies have changed the behavior of the economy. Consequently, the other structures of society.

With education, it was no different or it enters cyberspace or it will not be able to promote teaching and learning, according to the demands raised by the TICs. Information and communication technologies are not an extension of the school, but the opposite. The scientific and informational environment has always been necessary and grows with the perfection of the technique. The school must produce knowledge. The technology itself is already knowledge. It improves itself in institutes or research centers or according to its expansion in telephony, software, and computers.

Computerizing education systems is not new, dating back to the 1970s, according to [6]. The school begins to adapt in a movement that was already consolidating in developed countries. In countries that produce technology or in a technical stage of consumption and dissemination of very advanced interactive media.

ICTs promote socialization [7]. The school is not only a medium where knowledge is built. Above all, it builds relationships, behaviors. The structure needs this in addition to textbooks, hardware, software. Connectivity needs to erect sociable subjects. Possible fields for accessing multimedia.

The school community is part of the learning of its students. The responsibility is not only for teachers [7]. Although the use of ICT by students is quite significant even through social networks. They need to be guided to extract the knowledge that such media offers. Otherwise, when it is not about infrastructure to access the network, it comes from the poor training or lack of it on the part of the educational body.

Information technologies are multidisciplinary because it favors several disciplinary fields if they intercommunicate [7]. In this way, it develops in the subject knowledge according to the advance that the sciences have caused. Students capable of associating knowledge and not dissociating them. On the other hand, it promotes sociodiversity in school. And so, it integrates, approaches, includes. ICT in education is an expression of school multiculturalism.

The age of information and communication looms large with every discovery. New forms of communication help in the relationship of all peoples [8]. Today, we can not live below this reality. Technology is an integral part of everyone's life. Using it has become a more than necessary accessory. Living disconnected from the media is impossible. In addition to informing, it makes humans digital beings. A smartphone contains part of one's life. Everything is connected and the media are the interface of this process.

The age of bits and bytes changes the way people relate to each other and to the environment. People are influenced by the domain that this has provided [8]. Technology is the engine of mankind, from the invention of rustic implements developed in the Paleolithic and Neolithic times. The inventive process is intrinsic to the nature of men. Your cognitive and adaptive ability allows this. Every technical progress changes behavior. The web allows the accumulation of knowledge and the shortening of distances. Everyone begins to share their culture while at the same time acculturating themselves.

The learning of new technologies is not the same in every stage of progress of mankind [8]. It is not the same everywhere in the world and just as there is a concentration of income, there are also pockets of technology as well as overdevelopment of it. Mastering it requires integrated subjects with cognitive skills capable of developing them. Use them in promoting knowledge.

There are those who know how to use the media and others do not [8]. This problem must be remedied. The development of new technologies grows in such a way so that each of them requires constant learning. In the case of ICTs aimed at pedagogical practice, continuing education is fundamental. Thus, the teacher will be a multiplier [9]. Soon, it will be able to help the others in the construction of the pedagogical political project attentive to the interactive media.

The society of technology, the digital age, fast thinking. All this complexity requires polysemic

thinking. Teaching methods should be updated. ICTs in education emerge to strengthen. Teaching and learning are not conceived without the use of technology. These say a lot about the current society as well as its form of the world belonging and the establishment of new rules and guidelines of relationship [10]. Thus, change, innovation are the key to this process.

The progress of humanity is proportional to the progress of technology [3]. It enhances the development of various sectors of society. Education is no different. Benefits of internet, hardware and software development. Teaching and learning need to be interactive. Both students and teachers need to be connected. The collaboration between both will enable the perfect development of the potentialities as well as reach the competencies proposed by the act of teaching and learning. The current generation of subjects, those who are born immersed in technology are holders of technological skills as if their bodies were an extension of it.

Socio-Interactive Media is not a choice. It is necessary. One can not go against the potentialities that the ICT tool provides, besides allowing the accumulation of new techniques as well as new teaching methods in different modalities [3].

A very relevant point is the sociability that the use of information technology and communication offers. Motivated by social media (Facebook, Twitter, Youtube ...). Thus the virtuality, besides facilitating the interrelations, because the knowledge age has no barriers since it foments and develops learning [3]. Living online is the only way to keep up with the diversity of knowledge that society produces as well as to support the educational processes that teaching and learning requirements.

Even with so many potentialities that can be stimulated by ICTs, according to [3] it is still possible to find several negative points. One of them is fake news and cyberbullying. Misleading information said to be true. The social media in the same way that makes possible the development of knowledge according to [11], makes possible the emergence of dubious contents. Teaching and learning also permeate these processes.

The learning of the students as [11] discusses is the result of the use, often of smartphones or other technological apparatus such as PC (personal computer). The use of tablets is also included in this assertion. Thus the collaborative activity is promoted. However, without internet access, this is not achieved.

There is another kind of teaching and learning after the development of technology, information and therefore communication [11]. The current generation has patterns of behavior dictated by their advancement. Develop habits that make it impossible to stay offline for a long time. The advancement of the informational media, as well as the devices, makes life easier for everyone. Learning is permanent as well as cooperation also motivated to mobile devices with access to the network.

Pedagogical practice needs to be redone as well as teaching and learning [12]. It will have different and satisfactory effects. The training of professionals in ICT needs to be constant, in an attempt to keep up with technical advances [4]. The school needs to revise its teaching methodology. Allying what you have of both technical and specialized material for your pedagogical action.

The global village, the idea of a world one, without distance or barriers, exists only through interconnectivity [4]. Enabled by the worldwide computer network. Thus, subjects relate and approach. They are compelled by the advance of the same, even in their absence [1]. The current stage of technology

automates and also technologicalises the political, social, economic systems.

Digital skills allow you to develop other skills because the classroom needs to be restructured. This is possible with the appropriation of new technologies. According to [4] it is possible to improve the capacities offered by the ICTs. Digital knowledge, to learn and teach, interactive and organizational. The use of digital tools is not enough. You need to be immersed in them.

The insertion of the new technologies of information and communication is not a claim or a core of only the economic processes, of the sciences [12]. But the dynamics of social relations. It is systemic chaining. Irreversible process. Evolutionary dynamics of humanity to meet the complexity of their needs. Educational institutions, in the same way, can only meet these requirements, with the transmission of knowledge through the use of ICTs.

The present stage of societies, both technical and scientific, is so accelerated that the progress of humanity follows the same proportion. Time is shortened and the sciences become more demanding [12]. Educational curricula need to follow this process, since how fast and demanding the world is.

The student through the use of digital tools is including socially. When the digital excluded is included it alters the environment in which it is related [12]. ICTs are put into practice in the school environment when teachers devise ways to achieve the goal and develop students' cognitions. There is no use in interfacing with interactive media or devices at school if teachers do not modify the way in which they transmit knowledge and build knowledge [13].

The thought was re-signified with the advent of the web [2]. Therefore, deploying ICTs in educational institutions is an ongoing process. Teaching and learning as well. Thus, the teachers in this process, have important participation, since they are mediators of knowledge. This will be given according to the use of the educational media tool.

Students are not just receivers. In terms of technology, teaching and cooperation will be more potent. On the other hand, governments and, consequently, public bodies have an important role to play in facilitating such interaction, just as mobile interaction is a reality [14]. In this way, teaching and learning occur in any space, as long as it has access to the internet.

Continuing education is required, where the teacher will be a multiplier [9]. Thus, it can help the others in the construction of the political-pedagogical project as well as the reformulation of the school curricula.

## 3. Legal Frameworks of ICT in Brazil

The country followed a route that was already implanted outside. The necessary adaptation in the educational scope for the use of the technologies in the sense of developing education. The challenge, to implant the Information Technologies and Communication-TICs.

According to the National Development Fund [15], the ProInfo - National Program for Informatics in Education - was instituted by the MEC - Ministry of Education - in the 1990s, according to [16]<sup>1</sup>, under the

<sup>&</sup>lt;sup>1</sup> It is a decree law instituted on December 12, 2007, which ensured at the national level the implementation of the ProInfo program by the Federal Government in partnership with the States, Municipalities, Federal District. It is a reformulation of Administrative Rule No. 522 of 9/4/97, which first gave life to ProInfo. All the entities of the federation are responsible for its execution, objectivity, infrastructure, maintenance, the inclusion of Information and Communication Technologies (ICTs) in the school.

name of National Program of Educational Technology, applied to teachers and students of the public network. Thus, as stated in the aforementioned legal framework, Article 1 aims to "promote the pedagogical use of information and communication technologies in the basic education schools of public urban and rural education networks". From this, the implantation in the schools of the infrastructure of computers begins as well as to make feasible access to the Internet. The slow process has given the dimensions of the country with the use of free software like Linux-Educational. [17] states that all regions of Brazil benefited from ProInfo.

The proposal, previously, was established by Administrative Rule [18]<sup>2</sup>. Partnership with the MEC, is responsible in the implementation and regulation of the program, government, states, and municipalities, according to article 4 of [16]. The regulations will encourage the use of ICTs in education both in rural schools and in urban areas. The use of virtualization to practice teaching are pillars. Both normative and the other brings similar objectivities in its first clauses.

In the case of schools in the field, there are still rules that complement previous ones, as explicitly stated in [19]<sup>3</sup>, which deals with the Education Policy in the Field and Administrative Rule [20]<sup>4</sup> dealing with PRONACAMPO-National Education Program in the field. Reiterates the necessary "physical and technological infrastructure, according to Article 4, subsection IV.

In a little more than 20 years, the country has promoted published policies with the purpose of promoting access to interactive media in schools and actions. Legal instruments are essential to the promotion of social and digital inclusion [17]. Bringing to the school is to make it easier for students who do not have access to the world computer network or any other form of interactivity to promote public policy that includes and gives equal access to the technological world.

#### 4. Students facing ICT

Every technical and scientific advance has a purpose. It is known that the great impulse that technology acquired and improved since the mid-twentieth century was due to the imperialist race between the great nations. The economic question can be flagged as the first cause. Belligerence was only a driving force, a vehicle to put into practice the supremacy over the art of science. The high-tech domain. Although more studies are needed to understand the insertion of young people in the world of work [21] because technology governs the mode of production.

Schools are still far from achieving the goals proposed by ICTs [6]. It is a path without a return because the current generation is born immersed in the iPad, iPods, tablets, smartphones. Teaching systems aware of this through local political management try to implement educational institutions.

The production of knowledge has multiple meanings [22]. They are transmitted at all times. It is

 $<sup>^2</sup>$  The ordinance that created ProInfo. It was a legal framework, a reference. Although it only established four articles for the implementation of the program, it was restructured by Decree lei No. 6,300 of 12/12/2007.

 $<sup>^{3}</sup>$  Decree-Law that deals with specificity about how should be the policies directed to the schools of the countryside without forgetting to provide to the students the digital inclusion, the access to the interactive media of the web. Article 3, section IV, which deals with the insertion of PCs into the school community.

 $<sup>^4</sup>$  The ordinance that creates the National Program of Education in the Field (PRONACAMPO). It is an extension of Decree n ° 7.352 / 2010. It emphasizes the need to implement a physical and technological infrastructure, among other objectivities. It is seen that the Federal Government has both sought to democratize access to ICTs. However, a few later policies have noted the importance of continuing to introduce urban, information and communication technologies (ICTs) in public schools.

necessary to teach students to absorb what is relevant to them. Young people in this situation need guidance only. School and teachers should play this role. However, schools need to get out of their pedagogical ease. Stuck in itself, within its walls, although connectivity is a door accessible to all.

Students are the end product of any teaching and learning process. However, ICTs are possible to be seized. According to [23], through the review of the roles that teachers mainly assume in this process. Thus teaching and learning is a two-way street [23]. Both learn and teach. Teachers and students in collaborative roles. However, in this pedagogical relationship, the student is the main character. The educational process is for him. Otherwise, many teachers still perform their pedagogical functions in old fashion. Subjects who are totally immersed in the technological context become hostages. Technological imprisoned.

In the knowledge age, technological knowledge is constant [23]. All are inserted. The families of the students should be taken into account in their learning. When it comes to public school, many may not have conditions in the acquisition of equipment such as PC, notebook, tablet. However, according to the website of [24]-Brazilian Institute of Education and Statistics focused on education- "cellular mobile phone" is the most used to access the WEB, according to ADC-Household Sample Continues 2016-2017.

One of the problems of the insertion or not of teaching, through the use of technology, is in the objectivity of the subject for the pedagogical purpose [23]. The teacher for lack of continuous professional qualification or improvement must be based on teaching for technological subjects. When this does not happen, conflicts of generation arise, resulting from their differentiation [22] and [5].

Mobile Internet devices need to be rethought in educational institutions and schools [5]. See their potentiality. They should not be seen as villains of teaching and learning, but how to use them so that learning has a new meaning for the learners. Learning becomes more enjoyable when related to their world. Being online or offline is part of the current subjects and denying their presence or influence is impossible [21].

There are very inherent behaviors that allow us to identify the way the current generation relates to the world, asserts [21]. They tend to perform multiple tasks. They can acquire knowledge through themselves [25]. Network connectivity and collaboration is enough to learn something new and stay tuned to real-time news. While some of the teachers are waiting for the old habits of watching the news. The current generation's perception of what happens from place to place is fairly rapid. The speed with which one learns and conveys something through the internet is surprising.

There is a generational crisis [26]. What the author calls "Digital Natives" with "Digital Immigrants". The ways of acting and thinking of these two groups of subject differ greatly from each other. The former is more agitated because they are in the path of technology and the innumerable perspectives it allows. Learning takes place through hypertexts. Learning to learn is more dynamic [21].

The act of learning must be playful. However, those coming from more Cartesian learning, even if they try to adapt to the current technological means and uses, do not do it with aplomb. Although not totally disconnected. They have a certain degree of knowledge about interactive media. If teachers were to innovate in their teaching techniques, problems in the classroom would certainly be minimized. The old methodology of exposition must give way to digital interactions in the classroom.

It is a problematic of educational systems [26]. Teach subjects who think ahead while being taught by

subjects attached to outdated practices. It has nothing to do with knowledge. Their apprehension is fundamental. The question is how it is transmitted. The extent to which technology innovates education must follow at the same pace.

Later generations also use interactive media [21], perhaps even behavioral ones. They network, interact, make use of software and hardware, adopt constant connectivity posture. The internet also runs in your veins. They were adapting to the technology boom, particularly in the second half of the twentieth century. Most of the students are technological immigrants.

Some authors timed the arrival of the "Digital Natives" and the "Digital Immigrants". Regarding this, [21] points out that from the 1980s onwards, it is the threshold between one generation and another. Although [26] does not corroborate in this way, because it considers the complexity that the thought reached with the advent of technology. The young people of today are possessed of this diversity of thinking. However, the current stage of the technological age does not exclude the teacher's performance in his pedagogical practice. However, the informational media offer more subsidies to learners' learning [25]. There is no longer any way to get the learners' attention through old teaching practices. Their tendency is to interact autonomously in the acquisition of knowledge, considering how much this is possible to obtain through the network navigation. But, it does not exclude the intellectual activity of the teacher.

### 5. Methodology

The research was carried out at a High School in the city of Senhor do Bonfim-BA, Brazil. This teaching unit is part of the state network of Bahia. Thus, according to Figure 1, it has 31 active classrooms. The night shift, where the research was concentrated, still according to Figure 1, has more classrooms. So it's the most diverse turn. It has youth and adults in distortion and age series and workers. It is the second round to have classrooms in operation because in addition to having a regular high school, offers what pedagogical nomenclatures called acceleration or EJA-Youth and Adult Education. Although this nomenclature is no longer accepted. Therefore, the term Formative Time Stage IV (corresponds to the 8th and 9th grade of Elementary School II); Formative Time Stage VI (corresponds to the 1st and 2nd of the High School); Formative Time Stage VII (corresponds to the 3rd year of High School).



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The data described in both Figure 1 and Figure 2 were collected from the secretariat of the educational unit through the School Management System [27], set up on the internet for administrative purposes. According to Figure 2, night teaching presents the second largest contingent of learners.



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It is descriptive research, of field and of quantitative and qualitative character. A total of 18 (100% research population) teachers of the night shift with several academic backgrounds were selected in the month of June. The target of the research.

The information was made with the official research sites such as the Brazilian Library of Theses and Dissertations-Scielo, portal of the Ministry of Education and Culture (MEC), data from the Brazilian Institute of Geography and Statistics-IBGE, Google Scholar, government websites. In the electronic pages consulted were articles of no, minimum 5 years, through the descriptors: ICTs, Education, Technology, digital natives and immigrants. Therefore, between 2014 and 2019. Except for [26] and [25].

The questionnaire was used as a research tool. It was considered, mainly the variables: time of teaching, specialization, training in TICs. Considering that the use of this instrument aims to achieve the purposes of the proposal [28]. And so, understand the incompleteness or frustration about the use of the media in the classroom. Considering that using them is fundamental [25].

#### 6. Discussion

The search enabled the following results after tabulation. Thus, according to Figure 3, the majority of the sample studied presents a teaching exercise with more than 20 years of activity in the classroom. So they are experienced teachers. This portion represents more than half of the sample. With the time in question, it is natural certain difficulty in dealing with the media in the classroom.

[26], in dealing with digital immigrants, warns that time disparity is one of the major problems for teachers to demonstrate such difficulty in dealing with students in the classroom. They are apprehensive, although they are aware that the current moment is one of innovation and that the educational system must follow the same path. Many teachers are worn out by repetitive activities and without innovation.

Students, faced with time-bound teachers, are not in rhythm with them; they prefer other ways of moving away from what the old paradigm of the expository class expresses: speaking, listening, and copying. Figure 3 shows more and more the disparity of subjects, where acting, speaking and thinking are totally opposite. The distance is such that not even instrumentalizing the teacher with new resources, as well as teaching new teaching methodologies will reduce this space. It is true that, even with the implantation of the media within the scope of the school, the methodological renovation will occur with the insertion of native digital teachers.

Another issue is that the teacher has multiple tasks [9]. Often the teacher has work in two or three educational institutions. In this way, the workload plus the exercise time in the classroom is added and soon it does not develop satisfactorily the pedagogical activity. However, the use of technologies, even with that, would be a facilitator.



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In Figure 4, it is possible to observe that the large parcel has at least one specialization. It does not reflect data indicating specific training in ICTs. Among the 18, 13 students presented training in technology media focused on education. Short duration curses. On the other hand, 5 reported the absence of ICT training. Training is necessary for the current context [25] and [21]. Teachers who do not improve have a tendency to traditional education. Transmitting knowledge is necessary. However, provided you do so differently.



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It is not enough that the school has access to the Internet, but that it is satisfactory so that teachers can carry out their activities. Thus, 7 reported poor connectivity; 3; 7 regular; 1 did not know. Given that the education unit has 3 internet access servers plus 30 Chromebooks (notebooks developed by Google). Thus, according to Figure 1 and Figure 2, in view of the number of rooms and the number of students in the night shift, in case 5 teachers wanted to do some activity with this equipment, only one would use. More gadgets are needed.

No professional activity is left without using the internet. Teachers are set to the network, even if only use social media: Facebook, WhatsApp. They are still teaching and learning instruments. In view of this, 13 of them access the internet every day; 4 up to three times a week; 1 does not use. However, when students have questioned whether or not students had access to the internet at school, 12 reported that they did not; 6 disagreed. Therefore, even if the school does not have equipment that make the teaching activity feasible, mobile connectivity would be a possible way out to develop network activities in the classroom. Otherwise, it would be a relief for the teacher to be able to deal with collaborative activities [25] and [8].

Access to technological media is proportional to socioeconomic factors [21]. Because it is a public school, the students have a very diverse socio-cultural reality and also economic. When the school allows it to use the existing equipment and accept that they acquire the possibility of entering the world of work because when dealing with the tool IT (Information Technology) seize new skills. The use of ICTs is a social issue [2].

There are innumerable uses that the technology in the school allows. Among them, according to [22], teaching through the interface in games. The young people are inserted at all times in applications and always attentive the innovations that this type of interaction allows. Many of these subjects, as the games mostly are in the English language, begin to develop this language, because the act of playing prompts them to research. Tool if well developed by the teachers will allow the intellectual evolution of the students.

Despite so many works published in TICs, there is not much information that information and education media are in use [6]. It is a fact that they were implanted by the government by law, but the evidence of how much or not of its use is limited to the diverse works of researchers. Thus, the use of ICTs may or may not be satisfactory in a region. There are, according to the authors, many obstacles. Continuous monitoring is needed to improve and stimulate use.

To make sure the use of the technologies in the school, even if the teacher has or not training, the local public management needs to follow besides guaranteeing its effectiveness in the classroom, through the granting of necessary subsidies, be it hardware or software. [6], said that this action should be done by the federal government. It is not only a matter of implementing ICTs but also of permanently supervising the units of the federation.

Several technological tools in education are elaborated. Like e-learning. It allows distance learning, through the interaction of the subject with the educational platform. Self-learning is made possible by the set of information in the form of texts, images, sounds, videos. Even with the guidance of a tutor, learning is more virtual. The development of activities occurs through more sensorial means [8]. Students are immersed in the digital environment and can perform various activities such as reading and listening to music. Teachers need to adjust to this in order to develop new teaching methods.

## 7. Final Considerations

Information and Communication Technologies (ICTs), although not something new. This is still very pertinent. The influence of technology every day is an indication that the school community must learn to deal with it in a useful way. It is present in schools, in classrooms, everywhere whether through mobile devices or not. The internet is the result of knowledge and improvement of the sciences to make everything more dynamic.

For the teacher, it is a great challenge to dispute the attention of the student. This does not tolerate more expository classes. It is a reality that looms larger and larger. Governments and educational institutions should not wait for the federal government to implement public schools. Rather than teaching or transmitting content, the school with information and communication technologies needs to be concerned not only with the methodological part of teaching but with digital inclusion for work.

It was possible to get to know ProInfo, even though it dates back to the 1990s. Public policy was parked, but initially, it allowed the insertion of ICT in schools. This is a kick-start of the government that should have, today, the same importance when the beginning of its implantation by the country. On the other hand, public-private partnerships can benefit teaching and learning if the public-management entity is unfeasible.

In order to use ICTs, not only a set of hardware, software, applications, and the Internet is needed, but that teachers know how to use them properly. Students need to be inserted in this context with educational proposals that provoke them. Hypertexts, if well used to promote this.

Regarding the circumstances or difficulties encountered by teachers regarding the use and application of interactive media in the context of ICT in school, it was possible to perceive that classroom time is a relevant variable, considering that they are, paraphrasing [26], immigrated to technology. Although they use, but not in pedagogical activity; despite continuing education. Another preponderant factor was the infrastructure still to be desired. So many handsets, but unsatisfactory internet connectivity. On the other hand, it is possible that the pedagogical practice changes as the new generation of connected take the direction of education. It is not enough just to collectivize access to the media, but to guarantee the quality of access and use.

# 7. References

[1] JUNIOR, Pedro Jácome de Moura; HELAL, Diogo Henrique. Profissionais e profissionalização em Tecnologia da Informação: indicativos de controvérsias e conflitos. Disponível em: <a href="http://www.scielo.br/pdf/cebape/v12n2/10.pdf">http://www.scielo.br/pdf/cebape/v12n2/10.pdf</a>>. Acesso em: 14 maio 2019.

[2] MIRANDA, Flávia Danielle Sordi Silva. INTEGRAÇÃO DAS TECNOLOGIAS DIGITAIS DA INFORMAÇÃO E COMUNICAÇÃO EM CONTEXTOS EDUCACIONAIS: análise de três momentos de um curso oficial de formação de professores. Disponível em: <a href="http://www.scielo.br/pdf/tla/v53n1/v53n1a04.pdf">http://www.scielo.br/pdf/tla/v53n1/v53n1a04.pdf</a>>. Acesso em: 14 maio 2019.

[3] MARTÍNEZ, Raidell Avello; DUART, Josep M. Nuevas tendencias de aprendizaje colaborativo en

e-learning.Clavesparasuimplementaciónefectiva.Disponívelem:<https://scielo.conicyt.cl/pdf/estped/v42n1/art17.pdf>.Acesso em: 14 maio 2019.

[4] MALDONADO, María Eugenia. **El aula, espacio propicio para el fortalecimiento de competencias ciudadanas y tecnológicas.** Disponível em: <a href="http://www.scielo.org.co/pdf/sph/v14n1/1794-8932-sph-14-01-00039.pdf">http://www.scielo.org.co/pdf/sph/v14n1/1794-8932-sph-14-01-00039.pdf</a>>. Acesso em: 14 maio 2019.

[5] FILHO, Paulo de Sá; CARVALHO, Marcos Antônio de. Recursos educacionais baseados em tecnologias móveis: uma possibilidade a ser difundida. Disponível em:< http://brazilianjournals.com/index.php/BRJD/article/view/1797/1751>. Acesso em: 18 jun. 2019.

 [6] MARTINS, Ronei Ximenes; FLORES, Vânia de Fátima. A implantação do Programa Nacional de Tecnologia Educacional (ProInfo): revelações de pesquisas realizadas no Brasil entre 2007 e 2011.
Disponível em: <a href="http://www.scielo.br/pdf/rbeped/v96n242/2176-6681-rbeped-96-242-00112.pdf">http://www.scielo.br/pdf/rbeped/v96n242/2176-6681-rbeped-96-242-00112.pdf</a>>.
Acesso em: 9 jun. 2019.

[7] CUADRA, Diego Bernaschina. Las TIC y Artes mediales: La nueva era digital en la escuela inclusiva. Disponível em: <a href="http://scielo.senescyt.gob.ec/pdf/alteridad/v14n1/1390-325X-Alteridad-14-01-00040.pdf">http://scielo.senescyt.gob.ec/pdf/alteridad/v14n1/1390-325X-Alteridad-14-01-00040.pdf</a>>. Acesso em: 9 jun. 2019.

[8] COELHO, Patrícia Margarida Farias; COSTA, Marcos Rogério Martins; NETO, João Augusto Mattar. Saber Digital e suas Urgências: reflexões sobre imigrantes e nativos digitais. Disponível em: <a href="http://www.scielo.br/pdf/edreal/v43n3/2175-6236-edreal-2175-623674528.pdf">http://www.scielo.br/pdf/edreal/v43n3/2175-6236-edreal-2175-623674528.pdf</a>>. Acesso em: 14 maio 2019.

[9] ZANDAVALLI, Carla Busato; PEDROSA, Dirceu Martins. Implantação e implementação do Proinfo no município de Bataguassu, Mato Grosso do Sul: o olhar dos profissionais da educação. Disponível em: <a href="http://www.scielo.br/pdf/rbeped/v95n240/08.pdf">http://www.scielo.br/pdf/rbeped/v95n240/08.pdf</a>>. Acesso em: 14 maio 2019.

[10] MARGOTO, Júlia; FERNANDES, Jorge Henrique Cabral. Usos e aplicações de novas TIC'S na gestão de desastres naturais. Disponível em: <a href="http://www.scielo.br/pdf/pci/v22n3/1981-5344-pci-22-03-00003.pdf">http://www.scielo.br/pdf/pci/v22n3/1981-5344-pci-22-03-00003.pdf</a>>. Acesso em: 14 maio 2019.

[11] BELLO, Edgar Oswaldo González. Habilidades digitales en jóvenes que ingresan a la universidad:realidadesparainnovarenlaformaciónuniversitária.Disponívelem:<http://www.scielo.org.mx/pdf/ride/v8n16/2007-7467-ride-8-16-00670.pdf>. Acesso em: 14 maio 2019.

[12] CARMONA, Federico Édgar Guizado; MARTÍNEZ, Alejandro Cruzata. Diagnóstico del empleo de las Tecnologías de la Información y la Comunicación en el proceso de enseñanzaaprendizaje de la

electrónica en el área de la educación para el trabajo en la secundaria. Disponível em: <a href="http://www.scielo.org.co/pdf/ted/n41/0121-3814-ted-41-00124.pdf">http://www.scielo.org.co/pdf/ted/n41/0121-3814-ted-41-00124.pdf</a>>. Acesso em: 14 maio 2019.

[13] CASTILLO, Alejandro Guadalupe Rincón. El proceso de transferencia en el uso de las TIC en las escuelas normales del estado de Zacatecas. Disponível: <a href="http://www.scielo.org.mx/pdf/ride/v8n16/2007-7467-ride-8-16-00622.pdf">http://www.scielo.org.mx/pdf/ride/v8n16/2007-7467-ride-8-16-00622.pdf</a>. Acesso em: 14 maio 2019.

[14] OLIVEIRA, Catarina Sales. **No entretanto ou o (ab)uso do acesso online em mobilidade**. Disponível em: <a href="http://www.scielo.mec.pt/pdf/csoc/v28/v28a07.pdf">http://www.scielo.mec.pt/pdf/csoc/v28/v28a07.pdf</a>>. Acesso em: 14 maio 2019.

[15] BRASIL. FNDE 50 ANOS. Disponível em: <a href="https://www.fnde.gov.br/programas/proinfo/sobre-o-plano-ou-programa/sobre-o-proinfo">https://www.fnde.gov.br/programas/proinfo/sobre-o-plano-ou-programa/sobre-o-proinfo</a>. Acesso em: 8 jun. 2019.

[16] BRASIL. Decreto nº 6.300 de 12 dezembro de 2007. Disponível em: < http://www.planalto.gov.br/ccivil\_03/\_ato2007-2010/2007/decreto/d6300.htm>.Acesso em: 8 jun. 2019.

[17] COSTA, Lúcia Margarete. Programa Nacional de Tecnologia Educacional (ProInfo) - Expansão, democratização e inserção das tecnologias na Rede Pública. Disponível em: <a href="https://www.aedb.br/publicacoes/index.php/comunicacao/article/view/4/5">https://www.aedb.br/publicacoes/index.php/comunicacao/article/view/4/5</a>. Acesso em: 16 jun. 2019.

[18] BRASIL. **Portaria nº 522, de 9 de abril de 1997**. Disponível em: <a href="http://www.dominiopublico.gov.br/download/texto/me001167.pdf">http://www.dominiopublico.gov.br/download/texto/me001167.pdf</a>>. Acesso em 9 jun. 2019.

[19] BRASIL. **Decreto n° 7.352 de 4 de novembro de 2010**. Disponível em: <http://www.planalto.gov.br/ccivil\_03/\_ato2007-2010/2010/decreto/d7352.htm>. Acesso em: 8 jun. 2019.

[20] BRASIL. **Portaria nº 86 de 1 de fevereiro de 2013**. Disponível em: <a href="http://pronacampo.mec.gov.br/images/pdf/port\_86\_01022013.pdf">http://pronacampo.mec.gov.br/images/pdf/port\_86\_01022013.pdf</a>>. Acesso em: 16 jun. 2019.

[21] BEZERRA, Mariana Maia et al. **Geração Z: relações de uma geração hipertecnológica e o mundo do trabalho.** Disponível em: <a href="https://periodicos.unichristus.edu.br/gestao/article/view/2009/853">https://periodicos.unichristus.edu.br/gestao/article/view/2009/853</a>. Acesso em: 18 jun. 2019.

[22] SILVA, Sindia Liliane Demartini da; SCHEFFER, Nilce Fátima. **Aprendizagem matemática com jogos digitais online: um estudo fundamentado a partir da Neurociência.** Disponível em: <a href="http://200.129.168.14:9000/educitec/index.php/teste/article/view/665/285">http://200.129.168.14:9000/educitec/index.php/teste/article/view/665/285</a>>. Acesso em: 18 jun. 2019.

[23] ANDRADE, Fabiano Viana. Ensino de história frente às tecnologias digitais: um olhar sobre a prática. Disponível em: < https://rhhj.anpuh.org/RHHJ/article/view/363/285>. Acesso em: 18 jun. 2019.

[24] BRASIL. **IBGEeduca**. Disponível: < https://educa.ibge.gov.br/jovens/materias-especiais/20787-uso-de-internet-televisao-e-celular-no-brasil.html. Acesso em: 20 jun. 2019.

[25] PRENSKY, Marc. O papel da tecnologia no ensino e na sala de aula. Tradução de Cristina M.
Pescador. Disponível em:
<a href="http://www.ucs.br/etc/revistas/index.php/conjectura/article/viewFile/335/289%20">http://www.ucs.br/etc/revistas/index.php/conjectura/article/viewFile/335/289%20</a>>. Acesso em: 21 jun.
2019.

[26] PRENSKY, Marc. Nativos Digitais, Imigrantes Digitais. Tradução de Roberta de Moraes Jesus de Souza. Disponível em: <a href="http://www.colegiongeracao.com.br/novageracao/2\_intencoes/nativos.pdf">http://www.colegiongeracao.com.br/novageracao/2\_intencoes/nativos.pdf</a>>. Acesso em: 21 jun. 2019.

[27] BAHIA (Estado). **SGE- Sistema de Gestão Escolar**. Disponível em< http://www.sec.ba.gov.br/sge/sge.html>. Acesso em: 26 jun. 2019.

[28] GIL, Antônio Carlos. **Como elaborar projetos de pesquisa**. São Paulo : Atlas, 2002

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