ICT Inclusion: Use and Development of Specialized Contents in Formal Teaching Scenarios

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ABSTRACT

This proposal aims at reflecting on the role of teaching scenarios in the formation of the new generation of digitally literate citizens of the region taking as a case study the district of Barranquilla, Colombia¹, and the experience led by IES Torre del Palau from Terrasa, Spain, through the use and development of specialized contents which will allow the promotion of ICTs at social level through digital media and the exercise of digital journalism as a pedagogical strategy in the classrooms. All this with the aim of promoting learning and the acquisition of traits characterizing current contemporary society (speed, multiple contacts, environment global dimension, new sense of reference and the non-linear reading procedure and information access, among other aspects).

Keywords

ICTs, schools, Digital journalism, inclusion, digital literacy, Barranquilla, Terrassa.

INTRODUCTION

Transformations generated by the Information and Knowledge Technologies (ICTs) in the advent of the Information and Knowledge Society (ICS) places us within a frame of accelerated change in the generation of communication channels, construction of knowledge and the sense of individual and collective self reference which much experience in their communicative maps (Said, 2009a; 2009b). Within the frame of this process characterized by the Blog Bang (Flores, 2008, page xvii) or the rise of virtual scenarios, the consolidation of the Bit Generation (Sartori, 2002) or the E Generation (France Telecom Foundation, 2006) and the exponential increase of communications linked to the Sociedad red (Castells, 2006), we find ourselves in a social reference characterized by an increasing need of promotion and stimuli of new modalities of digital inclusion for the maximum use of

¹ The data here presented come from the statistical report, 2009, within the frame of the Project Observatorio de la Calidad de la Educación en Barranquilla funded by Corona Foundation, Promigas Foundation, Secretary of the District of Barranquilla and Universidad del Norte and executed by the Observatorio de Educación del Caribe Colombiano from Universidad del Norte.
Information and Knowledge Technologies (ICTs) favoring the activities developed and social contexts where the different social actors dwell and act in contemporary societies for their social and productive development. (Vjaybaskar y Gayathri, 2003; Subuddhi, 2002).

In the heat of the debate linked to the digital transition process in the world, teaching scenarios are one of the main spaces where all this is promoted, at university and at formal levels which face the challenge to educate a new generation of citizens who are able to respond to the challenges imposed by the innovation of the new ways for the generation and transmission of knowledge; this within an educational and organizational flexible context, where mobility and collaborative scenarios of students are possible which will facilitate the interpretation of the information and the generation of their own knowledge (Unión Europea, 2009, p. 1; Ministerio de Educación Cultura y Deporte de España, 2003, p. 2).

Based on the above mentioned, it is worth asking: How to use ICTs and digital journalism to enhance the education of our youth? What should be taken into consideration to be able to integrate ICTs in these scenarios in an efficient way? How to take advantage of the virtual communication media to the tasks many of our teachers develop at schools? How to generate digital inclusion in Latin America when the ICTs penetration indicators show an exclusion context in most of the socially vulnerable sectors and besides, the spaces and actors appointed to be the educators of the new digitally literate citizens, the teaching scenarios (schools) do not have the technological raw material, nor the human resources to support this process of digital inclusion?

CHARACTERIZATION OF THE BASIC AND MIDDLE EDUCATION IN THE DISTRICT OF BARRANQUILLA, COLOMBIA

In the District of Barranquilla the basic and middle education level is covered by two sectors: formal education (public) and non-formal education (private). The first one had by 2009, 171 educative institutions (IE) with 208 schools, while the second sector is represented by 339 IE. This means that 34% of the IEs in Barranquilla are official and the rest, 77% are non-official (District Education secretary Office, 2009). In spite of the former distribution the official IEs, cover 75% of the population enrolled at district level. That is to say that 3 of every 4 children are formed within the public education system.

Concerning enrollment, in the last five-year period, 2005-2009 (District Education Secretary Office, 2009) the number of students increased to 290,000, being the highest increase that of 2007 with 298,000 students, as a result of the increase in private enrollment between 2006 and 2007. It can also be seen how, between 2007 and 2008 there is a decrease in 19% in the volume of students enrolled with respect to 2006, corresponding 10% for the official sector and 50% for the non official sector. Although these fluctuations seem to be difficult to understand, most of the causes of this effect could be the facts that non-official IEs are not complied to report enrollment, the depuration of information systems and the adverse behavior of the economy in 2008.

At the moment of observing the enrollment behavior within the IEs of the District of Barranquilla between 2008 and 2009 (Observatorio de la Calidad de la Educación de Barranquilla, 2010) we can see an increase of each of the levels and grades which form it.
It is also important to mention that for 2009, 83.818 of the 204.129 students enrolled in official IEs in the district of Barranquilla are beneficiaries of free tuition (District Education secretary Office, 2009), which means that 4 of every 10 children in the school system have free access to study.

When we talk about the brute coverage for the educative sector at district level in Barranquilla, we see a sustained increase between 2005 and 2007 at primary, basic and middle level (District Education Secretary Office, 2009). This trend varies in the case of education at pre-school level, where the decrease is constant since 2006. From the data provided by the Secretary of Education Office, the evolution per cycles or levels is as follows: 6% for primary, 3% for secondary, 6% for middle level and -5% for pre-school.

In relation to net coverage\(^2\), we can see how in the 2005-2007 period (District Education secretary Office, 2009), there is a moderate rise in the coverage rate in the primary, secondary and middle level: 2%, 2% and 6% respectively. This varies in the case of pre-school level where the evolution is -8% during the same period. It is important to mention that the increase experimented concerning this kind of coverage for 2009 compared to 2008 (primary 24%, secondary 19% and middle 125%) , while at the level of pre-school it almost duplicated the contraction showed during the 2005-2007 period, with -14% for the coverage in that level.

**TEACHERS AT EDUCATIVE INSTITUTIONS AT DISTRICT LEVEL IN BARRANQUILLA**

When referring to the composition of staff at the EIs at the district level it is very difficult to establish statistical data from the non-official level of education. For this reason we can only refer to the official level data existing in Barranquilla. In this respect we are in a sector composed by 6.500 teachers (94%) distributed in 171 EIs; that is 38 teachers per EI from which, an average of 3 have administrative responsibilities.

According to the administrative function developed by the faculty at the formal IEs level, we can say that it is composed by 3.55% coordinators, 2.22% directors and 0.65% nucleus directors, supervisors and rural directors (0.65%) while a 0.03% of this personnel is not classified or homologated (District Education Secretary Office, 2009). From these data we can see that the relation teacher-student is of one teacher for every 32 students; there is a teacher developing administrative functions for every 459 students enrolled in the official EIs of the District of Barranquilla.

Concerning the educational level of these teachers, according to the data provided by the District Education Secretary Office we can say that 63% of the teachers’ population of the official IEs is composed by professionals with some kind of Educative degree, while only 21% have specializations or graduate studies; 2% have Master degrees and only 0.03 have developed doctoral studies. The formation context therefore, is worrying regarding the specialized competences within this collective, that will enable permanent reflection on their pedagogical practice and the relation established with their students in the classroom. The teacher population is also characterized by being formed by just 7% education teachers and 1% with technical studies. Likewise, it is also interesting that 6% of teachers do not have supported information of their education in the formal

\(^2\) It refers to the proportion of students in school age enrolled corresponding to an educative level with respect to the total population of students at school age for that level.
educative sector, which shows us an educative context where there are still dark areas of recognition for those who work within the official IEs (District Education Secretary Office, 2009).

Other factors influencing the performance of teachers are age, years of experience and professional level inside the educative sector. Referring to age (Observatorio de la Calidad de la Educación de Barranquilla, 2010) we see that 80% of the teacher personnel of the District of Barranquilla is over 40 years of age and only 15% is between 30 and 39 and only 1% is under 30. This distribution along with the legal and labor aspects corresponding to the teachers’ education in Colombia allows us to see weaknesses in the generational change within this collective. This could bring an aging of human talent with negative results for the effective development at medium and long term in the educative sector.

With respect to work experience of the teachers responsible for the education of students in the official IEs (Observatorio de la Calidad de la Educación de Barranquilla, 2010), only 51% of the total population reports 20 or more years of experience, which allows us to visualize a context of early professional initiation as teachers at district level compared to other professionals.

Currently, there are in force two different types of promotion scales in the Colombian territory: one which rules for teachers linked to the official sector until 2000 (Decree 2277 from 1979). This scale corresponds to the special regime in force to regulate the access conditions, exercise, stability, promotion and retirement of those who develop the teacher’s job at different levels and modalities that form the national educative system; the other is the statute for teachers’ professionalization in force for those professionals who became teachers since 2002 (Decree 1278 from 2002)³.

83% of the teachers in Barranquilla District, according to the national scale, are in the scale under Decree 2277 from 1979. From these, the highest number of teachers are between levels 11 and 14 (Observatorio de la Calidad de la Educación de Barranquilla, 2010). To get promoted to these grades, teachers must accredit work experience and additionally, they must undertake courses providing credits. These grades in the scale could show us that these teachers have a high degree of professionalization. Nevertheless, this cannot be emphatically stated, since there are no qualitative, nor quantitative data that would guarantee the pedagogical pertinence of the courses taken.

For the case of the teachers ranked under decree 1278 from 2002, the predominant population is teachers of 2A level, with 93% under this classification that is, most of the teachers that accessed the system under this classification system are graduated in Education or professionals holding a degree in other areas of education in pedagogy. Additionally, they have been appointed by contest or have successfully passed the evaluation after a trial period; or the competence evaluation in case they are in first grade.

³ From the perspective of decree 1278, the teachers’ scale is understood as the state teachers and directives classification system according to their academic education, experience, responsibility, performance and competence. Each grade and level to be reached during their working life guarantees permanence in the educational area based on the competence demonstrated in their labor and it also allows the professional salary assignation. (art. 19)
CONNECTIVITY IN THE SCHOOLS OF THE DISTRICT OF BARRANQUILLA, COLOMBIA

Concerning connectivity an Access to ICTs it is wise to make a difference between the advances in the incorporation of infrastructure needed to support ICTs platforms in schools and their capacity to effectively access communication nets. In 2009 the official IEs have 222 computer rooms (District Education Secretary, Barranquilla, 2009), which in theory would surpass the number of the existing institutions, but if we take into account their distribution we find that 19 IEs do not have established computer rooms, which generates a lack in this respect.

If we take into account the number of equipment with educative function, which is 3,750 and the number of students enrolled for 2009 (District Education Secretary, Barranquilla, 2009) we can see how from official IES of the District of Barranquilla, the proportion students/computer is 49 to 1. Nevertheless if we take into account that around 9% of the equipment is used for administrative functions, the rate increases to 56 students per computer. These data let us foresee a context with a wide digital breach within the IEs, at least concerning infrastructure, even thinking that context with computers in perfect state and functioning at their best, which up to date has been impossible to determine due to the lack of data related to the conditions existing in those equipments in that given scenario. The same happens with the computer rooms; there are no official data to help determine the standard concerning the number, type, computer maintenance and ICTs resources they currently have.

At the moment of talking about the time and opportunity of use students have to make contact with ICTs inside the official IEs we see that taking as a base an average of 8 hours of the school activities of these students in those education scenarios, students have an average of less than 9 minutes to contact ICTs per day.

This, in spite of the potential strengths that could arise from the consolidation of the teaching-learning processes the student could experience from a connectivity less concentrated on a few number of computers to the sharing by a large number of students.

If we contrast these data with those provided by the National Ministry of Education⁴ for July 2009 we see how the District of Barranquilla, for those dates and for the closing of that same year has superior numbers than the national average of 24 students per computer and 38 students per computer at departmental level, being only lower than those of the municipality of Soledad, where the number of students per computer is 67. But above all, there is a difference of 36 students when compared with the goal established by the MEN for 2010 which is 20 students per computer. This scenario shows the horizon and challenges faced by the District of Barranquilla in the official IEs with reference to physical connectivity of ICTs for the strengthening of the teaching-learning processes between students and teachers in the classroom.

Additionally to the data shown up to now, it is important to research the state of the computers and the capacity installed for internet access and the use of the programs requiring an important percentage of the RAM memory. Up to date there is no information that will allow us to compare the quantitative aspects exposed up to now with qualitative aspects linked to connectivity and accessibility of ICTs in official IEs, since we understand that the quality of this process will depend

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not only on how many computers there are per students or educative actors, but also on how fast they are and what can be done with those resources during the educative or the administrative work.

With respect to the Access to internet from the official IEs of the District of Barranquilla, we see that according to data from the District Secretary of Education, connection via satellite predominates with 42% of the computers connected (1,572). This indicator is directly related with the development of the Program Compartel of Wide Band Connectivity for Public institutions. This program has been slowly disseminating the use of these type of connections in the IEs of the country supported by the subsidy of the service by the State for an average period of three years. In spite of the support from this program it is pertinent to argue if this type of connection is the most adequate for the particular characteristics of the city, since its main advantage is its functionality in distant places (rural areas) where there are no other type of connections which is not the case of Barranquilla (mainly urban) and where the service offer is wide and the periods of governmental subsidy have expired or are near to expire.

In relation to connection speed expressed in the width of the band (District Secretary of Education Office, 2009) we see that 56% of the equipment with educative function connected to internet in the District of Barranquilla have a speed of 512 Kbps, 28% have 128Kbps, 10% have 254 Kbps and 6% more than 512 Kbps. This distribution shows us the low capacity of the computers existing inside the official IEs in the access to connections over 512Kbps that will allow students and teachers to access multimedia portal and contents and the use of enriched services (chat, infograph, animation and virtual museums, among other resources from web 2.0) which require of a greater connection capacity to enable effective participation from these spaces.

All this indicates that taking advantage of the ICTs in the teaching process of the official IEs is almost impossible to attain or that it is done in these scenarios with important limitations or making use of computers in such a way that it will be limited to very basic activities such as portal reviews and sending and receiving e-mails, among others. Students and teachers would not be able to participate in video-chats or access to exposition virtual spaces or use games online to develop certain competences, among other possible uses of this resource.

At the moment of dealing with the connectivity from the official IEs administration, the 399 computers identified for the development of that function inside these spaces, we can see that the media of computers in each of these institutions was 1.56 computers per institution which means there is an average of 0.78 computers per facility of the official IEs at district level. So, at administrative level, if we say that each educative institution has an average of about 38 administrative teacher per IE, the scenario will result that each teacher has the opportunity to contact ICTs for 30 minutes during their working hours.

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5 http://www.compartel.gov.co/proyectos.asp?iddata=4
THE DIGITAL INCLUSION PROJECT AND THE USE OF CYBER-JOURNALISM IN THE PUBLIC INSTITUTION TORRE DEL PALAU FROM TERRASSA, BARCELONA (SPAIN) 6

Technological challenge has an important place in the government of any country pretending to adapt to the demands of current society. Infrastructures are usually the first barriers to overcome and it is aggravated by the lack of provisory policies that have into account that the present moment creates future. The current economic conditions are not the best frame to enhance development, but it is evident that the goals traced need resources and cannot wait.

Education is one of the sectors where public policies center most insistently. Without resources the education of future generations will have gaps and if the objective is the introduction to Information and Communication Technologies (ICTs), it will not be possible without economic resource. People and communities expect to benefit from a development based on fast, free, and accessible for all resources, which are able to favor information and democracy, interactivity and that will help participation in global knowledge. In short, the current generation of knowledge is supported on ICTs and they are basic for a complete and continuous education throughout a lifetime. Development policies install computer equipment and internet in the classrooms of educative institutions step by step. Classes are the best scenarios to favor the development of technological information, direct access to information sources, learning of new ways to read, write and produce and manage knowledge.

The experience of 7 years applying ICTs in the classroom demonstrates its efficacy in basic aspects of the teaching process. ICTs increase the motivation and the interest of students although they require a control and certain command on the part of the teacher who must be able to overcome traditional teaching models due to the requirements of ICTs in the distribution of spaces, locations of the equipment pertinent curricular planning including a change in the role the teacher plays in the classroom. The control of students’ activities requires certain norms to avoid distractions or non allowed consultations. Discipline is another aspect which is favored by computers. In general there is a better behavior although the use of machines may cause a bad use like deviations of the signaled route of consultation and a waste of time for not following the instructions. The topic of treatment of the information is a key factor that teachers must deal with. Excess and veracity of information make the role of the teacher crucial: he is an intermediary, a facilitator who helps with hints to discriminate and construct knowledge with a certain criterion. He is not the one who knows all, but he must know how to orient, how to search, how to select and how to construct. This requires preparation, extra work and innovative professional spirit. Communication and group activities improve, too, although there is a need to adapt to new paradigms to new informative speed without criterion, dependency on the information of others and the fact of getting lost in the profusion of messages, mails, webs, blogs, links, wikis, favorites, and so on. To all this we would have to add ergonomic topics and others referring to the prevention of sight problems. The amount of time in front of the screen is always increasing in detriment of the printed media and the television, which is now considered passive and out of date for current habits of teenagers and young people in general.

6More about this Project at [http://www.iestorredelpalau.cat](http://www.iestorredelpalau.cat) ó [http://85.192.120.149/](http://85.192.120.149/); the magazine QUÈ PASSA!, [http://85.192.120.149/centre/revista/revista.php](http://85.192.120.149/centre/revista/revista.php) and the blog [http://ciberperiodismoeducativo.blogspot.com/](http://ciberperiodismoeducativo.blogspot.com/)
KEYS TO THE ICT PROJECT IN THE INSTITUTO TORRE DEL PALAU FROM TERRASSA

A public educative center without institutional support (this is not our case) will find great difficulties to get the necessary infrastructure concerning the topic ICTs. The same thing may happen in any community, NGO or nonprofit organization but there is an innovative staff willing to find resources and some doors may be opened. The strategies to get technological infrastructure were and are the following:

- ICT equipment assigned by the Department of Education to each public center of Cataluña and the fact of having a resident computer technician financed by the department.

- Presentation of ICTs innovative projects of the center to any public or private convocation. The center was chosen five years ago for an experimental project with ICTs supported by the Education Department. With other three middle education centers from Cataluña they developed during two courses and individually the project Advanced Integration of ICTs (IATUC Project). The project equipped the school with more than 150 computers (personal computers and laptops), a Wi-Fi net and projectors.

- Participation in university projects from research groups, in collaboration with technological companies. Additionally to the work and reflection implied, the center was provided with free equipment or at very low prices.

- Presentation of works of the center to awards, contests or convocations related to education and ICTs. The prizes are used for buying computer material.

- Economic collaboration of the Students’ Parents Association (AMPA).

- Resources from the center devoted to the acquisition of material or for maintenance.

- Incorporation of the center to ICTs projects requiring experience in previous phases working with ICTs. For example, the implantation in September 2009 of digital books (one student, one lap top of his/her property) for those students starting their first year of compulsory middle education (94 students between 12 and 13 years of age). Along with the personal laptops, the center receives a complementary supply of computers.

- Availability to test new technological equipment. Once the accorded time expires, the company or the distributor asks for an evaluation of the use in classes and in return, the purchase conditions are more advantageous if there is interest on the part of the institute.

- A constant out of the institution communicative policy in order to disseminate what is developed in the institute by publishing results, accuracy in studies and convincing experts, companies, media (general and specialized) and observers that the work with ICTs must continue and even with more resources.

Innovation with ICTs was designed from different fronts:

- Adaptation of the institute and the educative community to an evolution towards the integration of ICTs in all scenarios.

- Creation and use of technological tools to serve as platforms for the activities and management of the center:
o Web page digital portal and virtual expositor of the institute. It was created by a teacher of the institute.

- Intranet, a virtual scenario were management, academic, communication, agendas and global follow up services for each student are offered.

- The digital journal of continuous information about current issues at the institute, called QUÉ PASA! (name in Catalan), public space fed on cyber journalism which has a “news generator” in intranet

- Elaboration of digital material available in intranet for some subjects.
- Collection and selection of external digital resources for each subject contrasted with the use in class.
- Each teacher experimenting with diverse virtual resources.
- Use of personal blogs to favor the diffusion of activities.
- Starting the use of social nets in certain subjects.
- Use of blogs in language class, wikis, web quests, hot potatoes.
- The use of cyber journalism and cyber communication to work current issues from the classroom and among other resources, with digital press.
- Reflection about the implication of ICTs at school, personal and professional level. Ethics and ICTs.

Innovation must go along with adequate and continuous formation. To achieve this, the center designed courses for teachers during the first years. It was important to offer “prêt a porter” education according to the needs foreseen by the institute, with their own teachers who were committed with all the ICT Project since the beginning. This way, faculty becomes more engaged in learning, the teacher knows better his/her relations with ICTs and any doubt, any time has an immediate response as they are all working in the center. Currently they program sessions about concrete topics and special sessions for new teachers.

WAYS FOR INCLUSION OF ICTS IN FORMAL TEACHING SCENARIOS: CONCLUSIONS

Once the contextualization of the official educative scenario in the District of Barranquilla is complete and after having described the experience from the IES Torre del Palau de Terrasa, Spain, it is convenient to synthesize all the questions posed at the beginning of this work in just one: What and how to advance with digital inclusion in the schools of the region if they show data similar to the ones existing in Barranquilla to be able to advance with relevant experiences such as those developed in the IES Torre de Palau?

As stated by Westera (2204, page 501) “New technologies hold many promises to improve the quality and efficiency of educational service”. Concepts such as, flexibility, student and teacher mobility, the generation of new types of teacher portfolios and the increased efficiency on the use of material in teachers’ activities through ICTs, as well as the change of roles of teachers: from tutors and evaluators of their students to a more dynamic role of more experienced student trainers.
orienting the new generation of students in the identification, access and construction of knowledge through multimedia and hypertextual resources available within many spaces of higher education, among others (Landow, 2008, page 341); these are some of the new referents taken as main axes in the transformation and impact generated by the increasing advancement of ICTs in those contexts. This is due to the increase of complexity in human experience which is even more mediated by a greater diversity of nets of multiple ways, without previously established paths for accessing knowledge and contact with other pairs inside societies, at the moment of clearly establishing the resolution of what and how to act coming from the groups of non contemporary societies (Piscitelli, 2002, page 156).

We are then, in a context where the change of referents concerning the relations teachers-students, as well as the transformation of the ways knowledge is acquired, classified, favored and exploited, (Landow, 2008, p. 337) become one of the main characteristics of the impact of ICTs in the EES.

The repercussions in the circulation of knowledges as a consequence of the rise of ICTs (Lyotard, 1989, page 4) along with the change this is generating in the classical pedagogic models based only on literary teaching, are encountering a new context where students are increasingly self-directed and having prerogatives as a product of the increasing inclusion of ICTs in all social action contexts.

At the moment of referring to the competences needed by teachers in the current advancement period of ICTs in these scenarios, it is necessary to account for the contents or knowledge required for the development of the diverse significant activities developed by them during their teaching activities with students. From this point of view, any competence will start with integration of different types of knowledge which will allow mobility through different increasingly complex contexts or landscapes as we mentioned in the above argument. For this reason, students must learn how to navigate during their professional education and personal life.

Even though there is a trend to generalization concerning the advantages and opportunities brought by ICTs to the interest of teaching scenarios, national and regional contexts like the ones existing in Latin America, the ones shown at the level of the District of Barranquilla present deep inequalities at the moment of analyzing the development frame of ICTs in teaching scenarios, as is stated by Sunkel (2007).

In order to go forward in the solution of the questions stated before, we will say that from the experience of Spain presented here and the data collected for Barranquilla, Colombia we are presented with the need to develop actions from at least five dimensions:

- From the public institutions regulating the educative system.
  - To favor the data systemization mechanisms linked with the school. In our case, for example, those related with the provision of ICT equipment to school with their corresponding maintenance service.
  - To guarantee training scenarios and the acquisition of competences on the part of teachers, where they acquire the abilities and knowledge for the effective use of ICTs in teaching scenarios with their students.
  - To guarantee the existence of basic technological equipment that will allow teachers and administrative personnel a continuous contact with ICTs in schools.
o To promote resources and inter-ministerial and inter-institutional channeling in schools, that will allow the use of ICTs as tools for, for example, the promotion of interculturality, learning second languages, citizen culture, human rights, peace and conflict solving to mention some of the topics that could be developed from this type of applications which are not only part of the ministry or education secretaries.

o To promote new mechanisms for internal promotion with teachers taking into account not only their academic formation, experience, responsibility, performance and pedagogic competences, but also the competence and use of ICTs in teaching scenarios.

o To promote the culture of transparency in educative management and its recognition in the IEs and the other institutions linked with the educative system.

• From Educative institutions
  
o To assimilate and promote the culture of transparency of educative management among the actors administering and developing the pedagogic work.

  o To acquire capacities and/or abilities for searching non-public resources that will allow the improvement of equipment infrastructure concerning technology, reducing their role of solely receptors of public funding, which in many contexts are not enough to cover all the needs present in our social and teaching scenarios.

  o To promote the generation, development and diffusion of projects or significant experiences developed through the use of ICTs in the classroom by teachers.

  o To search alliances that allow, not only the development of training courses for teachers in such topics linked to ICTs requiring strengthening, but also to incorporate the educative community in research processes contributing to the improvement of the application scenario of ICTs inside these spaces.

  o To promote commitment scenarios for parents and the other social actors at schools for their integration in the processes of digital and technological inclusion of students and becoming promoters in non-school spaces.

  o To generate and promote rupture processes from all prejudices of the administration, parents and teachers concerning the use of ICTs by students.

  o To promote the systematization culture and a communicative policy at each IE that will allow them the compilation of all activities developed in the most accurate way and their effective diffusion for visibility and social recognition.

• From teachers and administrative personnel in schools.
To break the hierarchical step culture, which although allowing them to remain in the educative system by doing the minimum, it generates in many cases that the teachers become passive at the moment of facing the challenges students have today due to the advances of ICTs.

To interiorize the systematization culture in their teaching activities for social recognition and visibility.

To get rid of possible prejudices concerning ICTs to be able to make use of them in the educative processes developed with students.

To reconsider their important role in the effective assumption on the part of students of the role played by ICTs in the social development of our societies.

To assimilate and develop the culture of transparency in the teaching and administrative activities performed in the school.

To promote curiosity among students in everything related to ICTs.

To know and promote the proper use students should make of ICTs to avoid that the latent risks at the moment of accessing these resources become greater than the potentialities they offer to their education.

To acquire competences and knowledge in a voluntary manner that will allow them to make an effective use of ICTs in their pedagogical and/or administrative activity in their schools and this way, reducing the time students use them for recreational or social activities.

To change the paradigm of the teacher as a transmitter of knowledge for the teacher as a companion of learning processes.

- From the students.

  To become conscious that ICTs are resources that allow them not only to have fun, but also to learn in an innovative way.

  To become conscious of the risks coming from an inadequate use of ICTs.

- From society in general

  To get rid of possible prejudices against ICTs to be able to get advantages in their children learning processes.

  To assume a more active role in the IEs with reference to the education received by students (their children)

  To become supervisors of the transparent management of public representatives, teachers and administrative personnel in relation with their children learning process
To assume the increasing importance of ICTs in the education and human and social development of their children.

These are some of the lines or dimensions that we consider possible for the inclusion of ICTs in teaching scenarios in an increasingly operative way inside schools at regional level. With this objective in mind it will be possible to contribute to reduce digital and social gaps existing in our society from the central character that these learning contexts must assume to favor the social development of our local contexts.

REFERENCES


