

## **The Paradigm Shift in Education that Involves the Information Society and ITC (Information Technology and Communication)**

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### **Abstract**

*This study has two parts: a theoretical part and a practical one. Both are intended to show the importance of changes in information society education that defines current and globally interconnected society. People must adapt to this new society and acquire of education in this new paradigm. We complete Castells' point of view with theories of the philosopher Jürgen Habermas that reveals the need for genuine dialogue based on communication. Jürgen Habermas offers a theory in which this communication can be based, the theory of communicative action. As regards the practical aspects, we present two researches and one experience. These examples are based on a new methodology which is focused on students' activity and autonomy and uses ICT to motivate students towards collaborative and team work. In conclusion, use of information technology and communication is an excellent resource in which new methodology can be based on.*

**Keywords:** communicative interaction, shared background knowledge, dialogue, new methodology, information and communication technology (ICT).

### ***I. Introduction***

According to Manuel Castells, that analyzes information society at the article "Local and global. The cities management at information age" (Borja, Castells 1997), current world moves between two poles: the global and the local one. On a world globally interconnected, goods' production and distribution system interacts relating these three areas: social, political and economic:

*Production and consumption processes, and beyond these spheres of economic and social life, interlace increasingly (Castells 2013).*

J. Habermas distinguishes between two worlds: life world and system. The new paradigm that defines the information society allows to access to information in a more democratic way:

*Information and knowledge are deeply established at societies' culture (Castells 2013).*

People are capable of interpreting their own lives and using a shared knowledge that all the participants have in a communicative dialogue. (Habermas 1986).

Information society allows to extend this shared knowledge through social networks. According to Habermas (1994), communicative action produces socialization through action coordination, social action and solidarity promotion. In this way, socialization favors cultural identities development.

All this share background knowledge transforms inch to inch into explicit knowledge because of the need to understand a situation that has turned into a problematic one. In this context, language plays a central role.

Speech acts are the base of this communicative language if its force is due to validity. In this case, linguistic communication tends to comprehension. Speech act –which is part of a talk that is capable of moving the listener to accept a validity pretensions offer– can be effective as coordination actions mechanism of communicative act participants.

## ***II. Education Registers in a New Paradigm of Communication***

Two processes distinguish current society: communication and knowledge is shared through ITC.

Habermas places communication in intersubjective understanding paradigm (Habermas 1990). Contribution to dialogue of all the people on equal terms produces intersubjective understanding. In this way a communicative action, that allows to come to agreements, is developed. From this point of view, human action and communicative interaction are the base of democratic society. Agreements allow to reach consensuses. The most important condition to take part in this dialogue is to do it by means of validity pretensions of communicative interaction participants. According to J. Habermas, validity pretensions are the answer to the truth in an objective world, normative accuracy in social world and sincerity in subjective world.

We support that education and culture can help to promote a better life for people, and this fact can originate a social and cultural transformation. In this article we defend that validity pretensions existence are essential in order to establish a dialogue directed to comprehension.

Information society defined by Castells as a result of last forty years technological revolution, has produced many important changes in population's education and training value, which constitutes the new capital of new society.

While knowledge in the information and training society has acquired supreme importance, skills for the information processing and selection capacity are more valued in the labor market. Communicative action philosophy makes possible an education paradigm transformation.

On the contrary, philosophical relativism dismantles any social change hope because it denies the possibility of coming to universal truths. Just communicative action and intersubjective paradigm allow to frame education in a transformer context.

According to Manuel Castells, one of the biggest problems in new information society is the logical flow refusal of information, typical of global economy. Information society has not come still to all society groups. Any social excluded sector from this logic runs the risk of sheltering in fundamentalism and exclusive nationalism. Nevertheless, cultural creation is possible in everyday life world and allows to take part into the information society through communicative interaction.

## ***III. New Education in new Information Society***

Information society focus on two processes that distinguish industrial society: generation and processing of information and knowledge. One of the central characteristics of new society is the narrow interdependence of three areas: social, political and economic (Castells 2013). This is the main theory that allows us to understand new social structure. This involves a change in demand in labor market, which is characterized principally by an increase of social groups with higher education. At the same time, it increases risk of population's social exclusion, without characteristics needed in new information society.

Difficulties in accessing knowledge, education and participation areas and decision making turn into social exclusion factors. According to sociologist Manuel Castells (2013), this technological revolution effects social structures. There are four types of effects:

- a) First table: information and knowledge are linked exclusively to culture and society.
- b) Secondly: work's mental capacity is truly tied to education and training on an open and complex society, depending on the variety of cultures and institutional conditions: health, mass media, spare time, habitat conditions, leisure time culture, trips, access to natural environment, sociability, etc.
- c) The third characteristic is the connection between production, distribution and management processes, a new work organization that are the base of new economy. This produces a reorganization of flexible and adaptable production processes.

d) Fourthly: changing power sources into society and between societies. Science and computer technology control becomes a form of power itself.

This social change phenomenon originates a dilemma between global and local. We might fall down on relativist logic and think that universality is not possible. We might reduce the point to the global /local duality but we would deny the importance of universal values possibility, fragmenting speeches without analyzing reality in its entirety. Relativist philosophies deny the possibility of reality and their consequences.

The most serious danger of globalization is double: the risk that many companies or entire communities remain out of world economy and production interconnection. The consequence can be the danger of rejection from both parts and the possibility of generating fundamentalisms. In our opinion, the possibility of generating an elitist culture, that represents only privileged sectors of whole world societies, must be avoided. The danger consists on leaving aside all these popular expressions that represent the way of people's life on an universal level.

In information society people re-define constantly their "I" (Castells 2013) because they express themselves through participation in their own development and education. But new education paradigm helps culture participation that allows people the recognition in two aspects: personal and social. An elitist image of culture and cultural dissemination, that excludes some sectors of the population or specific communities, typify the image that culture is "something that is not for them" and prevents them to take part. This idea can be wrong interpreted when it is said that "people do not take part because they are not motivated. "

In his analysis, Manuel Castells affirms that in information society new relations "nature – culture", that join to new economy, are produced : We have to learn to live in a society where culture is completely autonomous. We have to be capable of developing in a purely social world (Castells 2013).

Increasingly, western societies as ours are turning into multicultural ones. At the same city people of different beliefs, cultures, with different colors skins, from Africa, Asia, Latin America, Oceania, Europe, live together. This coexistence is constantly threatened by xenophobic and racist attitudes. Exclusive nationalism has been one of the worst nightmares of Europe in the XXth century.

In this sense it is necessary to admit that progresses have been taken place, for example in women's public voice that have often been historically silenced. Nevertheless, to continue and to advance in social transformation must bear in mind the danger announced by Manuel Castells :

*The danger of breaking social communication models between information flows world and personal experiences set* (Castells 2013).

In information society, education and training are two processes that allow access to knowledge. New societies need that people have skills to access, to select and to process information. New education must respond to this need. As M. Castells says, one of the features of current information society is the close interdependence between society, economy and culture. According to his theories, new technology flexibility allows a variety of organization models that help people to work together at different companies and / or different situations and / or different fields. In accordance with this premise, in a new context it shouldn't be difficult to find ways of working together to construct a new school for new culture.

We start from the assumption that all the people get certain knowledge both in traditional societies and industrial society. We define it as "common sense knowledge" and Habermas defines it as: "shared background knowledge". But this knowledge is not always recognized or prioritized. For example, immigrants that came to European Union societies offer a multicultural experience that can only be recognized through comprehension and consensus.

Garfinkel (1967) was an ethnomethodologist that began to give importance to people's interpretations of their own lives. Habermas (1986) contributes with his concept of intersubjectivity as an essential element of understanding process on the base of "shared background knowledge". Basing on these two authors and in M. Castells, we can deduce that this knowledge can connect by a telematics route through interconnection processes in information society.

In his studies L. Vygotsky investigated knowledge and intelligence and came to the conclusion that learning is not only an individual process, but also a social one. This social aspect of knowledge and learning leads us to emphasize education new paradigm in democratic societies.

Sylvia Scribner and Michael Cole (1974), in their transcultural studies of cognitive processes showed that learning also happens outside of academic contexts and is used to solve problems at work world or in daily life. In this way it's developed a different type of intelligence that is opened thanks to non academic learnings.

The key is in the base of Habermas' definition "shared background knowledge". It is precisely this concept that shows that it is possible to come to agreements through dialogue. When a situation turns into problem, it begins a reflection process in which people take part through dialogue, everybody is capable to understand what it is spoken at the same time that mutual learning takes place. This learning in common is not always explained, but it is always implicit in dialogue process with common codes: linguistic codes, previous notions, common definitions of situations. Along this process it is possible to construct a situation definition in order to come to an understanding.

"Shared background knowledge" has also elements of all ways of life that are directly related to their own contexts. However there are universal concepts too. This universal aspect of knowledge is being constantly improved because of society globalization and the possibility of accelerating information transmission through technological advances.

#### ***IV. A Methodological Change Based on Use of Communication Technologies in Education***

In the opinion of Pere Marqués, teacher and researcher of the Autonomous University of Barcelona (UAB), "ITCs can facilitate a methodological change in classroom, such as new hardware and resources, whiteboards, netbooks and tablets, educational platforms, digital contents... allow implementation of a lot of new learning activities that are more centered in activity and people's autonomy and often in collaborative working. These activities, together with the right time of teaching tutorship, increase opportunities of students learning.

However, to change the paradigm is needed not only technology or a methodological change but also changing curricular focus, that allows a school –too much centered in "management storage and memorized information culture"– turns into a competitive and knowledge management center, that requires our time. In this line research "bimodal curricular focus" is developed. It discuss the necessary memorizing of concepts and curricular content such as skills through activities, in which students can always consult their qualifications in internet (that we define as an external access memory).

#### ***V. Use of ITC is an Important Educational Resource for Students Affected by Diagnosed Mental Illnesses***

Educational experience at USEE (Support Unit for Special Education) of a high school center, placed at the metropolitan area of Barcelona, where 5 children and 3 girls are registered, ages between 12-16 years and with different educational levels, from 1st to 3rd course of ESO (Spanish compulsory secondary education). Students have different diagnosed mental illnesses. Teachers are two psychologists in education. The main target is improving educational quality, bearing in mind families and our students special needs.

At this high school is used a digital platform that allows studies program access. This platform is a meeting point for all educational community in order to learn, to share and to communicate.

The daily class program is the following one: teacher begins the meeting presenting to every student content and activities that will be done in every matter (taking into account pupil's personal needs and academic level). Every student has access to a personal computer and all digital books in a simple, tidy and effective way.

The digital platform is a successful experience for students with specific needs:

- This function improves the interaction between teacher and students who can gain access to contents and digital information in any time. So students are motivated to learn in a more conscious and real way.
- It helps them to organize their time. Each one has a different speed of learning taking in to account the main part of needs originated in teaching and learning process.
- It encourages the possibility of sharing also activities and knowledge through teachers' direct attention. Pupil's work is sent through the network in order to be self adjusted by the same students and corrected by the teacher. In this way educational process pursuit is done.
- On the other hand it manages every pupil's weekly program and program issues are worked in a simple way (classifying them for color, topic, book, classroom and assistance).

- At the same time, the USEE students have created a blog to publish interesting news. So that writing and digital comprehension issues are reinforced. Thus school keeps informed.
- Finally, a space is created to share experiences, photos, texts, images, messages, links, sharing documents, daily, weekly or monthly events, discussions with groups inside and outside center and the fluid and continuous information between teachers, students and family members.

## **VI. Use of ITC in Adult Education**

J. Habermas in his *Theory of communicative action* explains concept "shared background knowledge" as those knowledge that people share although they haven't had the chance to tell them and haven't accessed to academic knowledge. In our opinion, life wide education allows adults to put in common and update this "Shared background knowledge". This "knowledge" is optimized when it uses ITC to investigate and to deepen knowledge. ITCs allow also to share these investigations, helping to construct new knowledge. Thus there are no distances to share and to democratize knowledge.

"Shared background knowledge" adds acquired knowledge in an informal or non-formal way, through experience in adults life. Sylvia Scribner's and Michael Cole's transcultural investigations demonstrated that people learn in contexts where they develop. They studied mathematical skills acquired by dairy workers and deduced that they were developing employees' practical intelligence.

Adults familiarize themselves with ICTs use through adults education. They do it to be updated, to retrain, to fill their spare time or to be related to the others.

New skills that new society demands must make possible access to networks for all. With regards to adults education, participants are defined in this way:

*All cultures have to receive the same equality dealing. Adults education has to gather community's histories and experiences based on an intercultural dialogue (Art. 11 of Declaration).*

One of the most powerful and transforming factors in current information society is the access to ICTs. Only if this access is democratized, people will be able to build an information society in a communication paradigm. So this declaration considers this right:

*Participants have the right to receive an integral and permanent training that allows them to adapt to the constant changes of society: transformations in the work world, access to new technologies, active filling of leisure time, training for labor orientation. (Art. 9 of Declaration)*

The Participants Rights Declaration has been spread in the European Union by FACEPA (Cultural and Education for Adults Associations Federation of Catalonia), that has coordinated a Socrates project.

## **VII. Conclusions: Education is the Key**

The intersubjectivity paradigm situates education in a key place. The importance of educational interactions between students and teachers as well as interactions between equal, produce a social transformation when they are based on an authentic communicative action. If we add ICT educational resource –which extends and favors such interactions– we make possible a new education in this new paradigm.

According to researcher S. Scribner, when standardized tests results need to be validated to measure intelligence, it's discovered that it is impossible to measure learning ignoring the contexts in which took place (Scribner,1988). That's why it's important to contextualize current education in educational paradigm that we propose along our article.

Education means to teach how to face incertitude, to take decisions and to assume risks. Information society requires new skills from population in order to adapt them to it. In an interconnected telematically society, knowledge is constructed itself by all. "Shared background knowledge" that Habermas talk about is being constantly improved through the possibility of sharing information and knowledge by means of technological advances. Finally, we come to the conclusion that education is the key in a society in which knowledge is a treasure.

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