Phenomenological features of digital communication: interactivity, immersion and ubiquity

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Abstract:

Media convergence has changed the communication industry. Now communication, media and audiences are digital. The audiovisual industries have adapted their contents, formats, distribution and broadcasting systems to the digital platforms and mobile devices, whose modus operandi and nature have made digital communication increasingly ubiquitous.

Nowadays the digital cultural practices and digital recreational activities have a privileged space in the worlds of communication, business, culture and education. Accessibility, ease of use, convenience and immediacy are some of the features that characterise the different models of technology-mediated communication. The fields of communication and education need to adapt to the new social, technological and cultural contexts in which mobility, convergence and ubiquity have changed the way people consume media products and communicate and establish relations with other people.

As a phenomenon that occurs in the technological environment, ubiquity needs to be analysed from three perspectives. First, as an object of study: What does ubiquity add to the new communication, social and cultural scenarios? Second, as an educative and sociocultural instrument: How can ubiquity be used to change social and cultural relations and make people more humane, collaborative and pro-community? How can ubiquity be used to change the teaching and communication methods used in schools? Third, as an instrument of expression, knowledge generation and socio-cultural

participation: How does ubiquity improves the access to and management of information? How does ubiquity allow socio-cultural participation and awareness?

This article argues that the proliferation of social networks produced by mobile devices and apps have set new relational parameters that are dominated by large communication companies that propose and impose a marketing discourse that fascinates and seduces people. The young generations create their digital profile in these technological networks because they want to be acknowledged by others. In this sense, educators have the challenge of taking full advantage of the potential of technology to 1) replace the vertical, central and unidirectional communication and teaching models used in the classroom with a horizontal, decentralised and multi-directional transmission model; and 2) to transform the school into a space where interaction occurs in every way, level and programme of study.

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Keywords:

Media convergence, ubiquity, digital media, mobile learning, interaction, education.

1. Communication in the Digital Society

Media convergence is the technological, business and communicative framework that describes and defines the current industry of information, knowledge and entertainment. Media convergence allows the creation of multimedia products that have a hypermedia and interactive structure that determines the mode of presentation, exhibition, reception, processing, distribution and recreation of information. Media convergence, therefore, has radically changed the structure of the traditional analogue media and commerce and business models, the role of users and communication and education professionals, and the traditional teaching-learning processes.

This article describes the main features of communication in the digital society: interactivity and immersion and ubiquity (Gabelas Barroso, Marta Lazo & Hergueta Covacho, 2012).

1.1. The interactivity and immersion

The new digital narrative, which gives structure and consistency to the ubiquitous cultural practice, requires us to develop another discursive paradigm. The

hypertext, as an electronic system of writing and expression that organises, shapes and distributes information and fiction in a non-linear manner, with horizontal or tree-like structures, composed of nodes and links, offers itineraries that are more or less complex and labyrinthine, but also open to the interests and needs of the user. This narrative emerges and flows in the hypertext, which has multimedia support and uses different codes and languages, and in the interaction, which allows the intervention of the user as a producer and distributor of content.

Internet users are not traditional readers or viewers because former exercise and develop a set of expressive and technological skills, such as manipulation of data and management of multimedia applications, and collaborates in pro-community and collaborative activities in the different online spaces open to construction in the Internet.

"In the metaphor of the text as a world, the text is considered a window into something that exists outside of language and extends in time and space far beyond the frame of that window" (Marie-Laure Ryan 2004:118).

Games mediated by digital technology allow interaction in real time, with oneself, in the overcoming of levels, and with others or against others. The duration of the game is under the partial or total control of the player. To some extent, the player will also be able to determine the space, the plots, the arguments, the characters, and the setting of the game. The degree of gameplay provides players a greater or lesser protagonism. Narration here is decentralised. The player's active participation and capacity to change the course of the action and the story, as well as physical and mental presence in the game, all make the it look like the he or she is visiting a theme park with different types of attractions.

Therefore, the degrees of interactivity involved in the different processes and levels of the game lead us to consider the player as a creator and as what Marta Lazo (2008: 36) has termed "participant receiver", which indicates that the user is part of the process, in addition to being an actor and protagonist that creates new re-narratives. The immersion of the user, as it occurs with a song, a book or a film that catches and retains our attention and interest, is a relevant factor in the description of interactivity. Here it is important to note that the immersive and, therefore, interactive character of the digital environments has been present in many other cultural manifestations and consumptions throughout history.

"These forms are characteristic of the previous tradition of popular types of entertainment... While we marvel at the spectacle, we also marvel at the skills of the

producer of the effect, and at the device that offers this spectacle to us" (Darley, 2002: 98).

Interactivity is one of the most complex theoretical issues in the field of communication. Interactivity is not something that emerged for the first time in this new century but the technological convergence of the last decade has equipped the concept and its practice with new dimensions. Classic cinema, with its ellipsis and off-cameras, prompted the viewer to "fill" and "complete" these gaps in the frame. The celebrated avant-garde movements of the second decade of the 20th century, like the cubist body decomposition and the surrealist chaotic combination of reality and dreams, also encouraged the participation of readers and viewers. Theatre, with its staging, painting, and game of perspectives, also became an interactive bridge for the imagination and receptive cultural context of its audience. Thus, interactivity, participation, and art performances and productions have been closely linked by tight ties that the media convergence has transformed.

According to Manovich (2005), when defining the concept of computer-related interactive media we run the risk of interpreting "interaction" in a literal manner, equating it with the physical interaction that occurs between users and media objects, at the expense of the psychological interaction. However, interaction can also refer to a way of relating with multimedia representations or fictional situations. Darley points out that "it is difficult to disassociate space and time with regards to this aspect. The desire of experiencing events in computer games as if they were taking place now depends greatly on visual simulation" (Darley 2002: 248). From this approach we can see interactivity as a gateway to the fictional universe, in which interaction and simulation maintain close links. Therefore, we should not underestimate the cognitive processes that also occur in the interaction process, such as hypothesis formulation and psychological recognition, identification and projection.

Defining interactivity is not simple, and it is neither our intention, as we do not have space for a semantic digression. In summary, by interactivity we refer to the active participation of participants with a machine (program or interface), while by interaction we refer to a process that occurs between human beings, users, authors and co-authors in the technological mediation. When we use a machine we can only follow the route previously designed by the developer of the product. As Aparici (2010) points out, there is not necessarily a correspondence between the degree of interactivity of a technical device and the medium's democratisation level.

"From the simulation of reality in the analogue media, especially television, we move to the simulation of participation in the digital environments" (Gabelas, 2010a: 253)

Advancing in the multiple connections between interactivity and immersion, Scolari (2010:234) quotes the following description by Schmucker, "a model is a set of variables that are presented as a reduced representation of a process or situation that summarises the abstraction mechanisms of the cognitive acts, places at the learning centre the dynamic set of relations and processes, and explains the mechanisms of action involved in this process". As Scolari explains, the multitude of interactive video games, like Second Life, offer a universe that is autonomous in its economy, and social and game rules.

Immersion is a source of pleasure for the reader, viewer, player and Internet user. They get trapped in the "text" which becomes a rewarding experience, especially when access is easy and comfortable. When "texts are familiar and require little concentration effort" (Ryan, 2004:123) this access is immediate. Texts charged with stereotyped contents facilitate immersion as they connect with the expectations and reinforce the information held by the reader about others individuals, groups or situations. But does immersion involves an uncritical consumption, reception or interaction? This seems to be one of the factors why immersion is rejected among many scholars and intellectuals, as they deem it evasive and irrational escapism with not civic commitment. Beyond these positions, immersion is not a simple and easy for of gratification for uneducated escapists, but a necessary invigorating experience. It involves attraction, passion and pleasure. Writers, filmmakers and entrepreneurs get immersed in the development of their projects. They need passion and courage to get their projects started, emotional charge to carry on and improve them, and immersion capacity to guarantee their execution.

Neither interactivity nor immersion are recent phenomena. Some people "think that information technology has enabled interactivity, but this is actually a dimension of the face-to-face interaction that was excluded with the appearance of the manuscript and writing and [now] the electronic medium has [re]introduced in written messages" (Ryan, 2004: 247). SMS and instant messaging have managed to integrate the rich and expressive nonverbal communication that is produced in oral communication, through the use of emoticons, nudges and different graphic signs, which make this type of communication feel warmer, closer and more complete.

Immersion is a very important factor in early childhood, where games allow children to grow and learn. From the intrauterine immersion in which the foetus collects

and absorbs the mother's resonances, we move to the mimetic immersion that the child has with the mother. The so-called mirror neurons stimulate learning processes and mechanisms in which the child gets immersed in the gestures, words, tone, and the ways of looking of the mother. Then, and from early childhood children play with their feet, hands, objects, and with other children in a long immersive ludic journey of learning and enjoyment; growth and socialisation.

Digital communication recovers and integrates the concept of intertextuality, which comes from the field of communication and is closely linked to the communicative context, but even more to textual remix, recreation and parody. The digital and cultural practice allows co-authorship, in a broader and more significant spectrum, in environments that are powered by free software and facilitate literacy in its critical and creative dimensions. Recreation and parody allow analysis, empowerment, personal production and the possibility of changing the micro-space, the micro-environment.

Some authors have conceptualised the phenomenon of intertextuality as "the second screens" (1) or multiple viewing, which refers to the fact that now people can simultaneously watch a TV program and use an app to see the biographies of their favourite characters; or to the fact people can simultaneously play a videogame and watch in their mobile phones the graphic novel that inspired the multimedia game. Media representations are fluid and like palimpsests that retain traces of previous texts and combine their references and expressions to create the new representation.

Intertextuality describes the concept of active audience in its double dimension. The first dimension is the process of critical reception where the audience deconstructs and challenges the message, its consumption and interaction, and analyses its intentions, negotiates, resists or opposes the meaning of the text. In the process of reconstruction the audience recreates, rebuilds or parodies the text, through the use of textual remix or sampling strategies. For example, YouTube is a large active and recreational repository of this type of critical reception. This is how we reach the second dimension, the sociocultural context in which the reception process takes place, which involves not only the personal and collective context of the subject-audience, but also the collective and symbolic imaginary that conditions the interpretation.

After having addressed the concepts of interactivity and intertextuality, we will now address the concept of hypertextuality. In the last process, information is organised in another way and content has a different structure. The traditional journalistic piece of information becomes hypertextual, originates new structures in the

message and new exploration routes in the user. Hypertextuality has transformed the traditional linear text of the mass media into a network of nodes, in which information enables different accesses, with different navigation routes, according to the needs and interests of the citizen.

The hypertext allows other forms of creation and co-production, in which users-citizens may participate and intervene in the creation of information and comments in an instant manner; and of distribution, given that social networks have programs, applications and tools to disseminate contents. Media convergence offers through the variety of platforms the hypermediality necessary to disseminate information from and with the integration of media and languages. A product of this convergence is the emergence of cyber-genres which is the concept used by Marta Lazo (2012: 125) to describe the new trends of the cyber-reports and cyber-documentaries. One of the examples where the media convergence is manifested is television, understood as the epicentre of the convergence of screens (Marta and Gabelas, 2008).

In this regard, Salaverría (2008: 21-34) proposes very useful terms to define the features of digital journalism:

- Multimediality: the medium can integrate in the same platform the following formats: text, audio, video, graphics, photographs, animations, computer graphics, etc.
- Hypertextuality: allow us to access information in non-linear multidirectional ways and to navigate the content through textual links that provide more information.
- Interactivity: refers to the possibility of users to interact with the medium, the authors and the text, and the development of actions that directly communicate and propose ideas.

In addition to these basic features, we should consider other factors when creating content for the web:

- Usability: it is an attribute of quality that refers to the ease of use of a website's interface by the user.
- Updating: refers to the constant publication of content with the objective of informing and communicating events of public interest.
- Distribution: refers to the use of different channels to promote content, such as subscriptions, newsletters, social networks, mobile devices, etc.

- Access: the principle of web accessibility is flexibility with the objective of satisfying different needs, situations and preferences.

The following section describes how all of these factors are present in the digital environment and in particular in the ubiquitous digital universe, applied to the field of education.

2. Ubiquity

The technological transformation in synergy with society towards the media convergence and the changes that have occurred in the understanding of communication, information and education have altered the existing balance and put people at the disposal of the new paradigms and scenarios of production, interaction, social and cultural construction, where ubiquity is a very important factor that proposes a new vision of communication and education.

What do we mean by Ubiquity? A ubiquitous person is one that wants to witness everything and is in constant motion, i.e. a person who has a complete vision thanks to an attitude of movement and dynamism. The goal of ubiquitous people is to have unlimited access to as much information as possible from as many sources as possible. If we transfer this information to the concept of ubiquity, we can define it as the ability to be permanently present and limitlessly in motion. The use of technology to connect with sources of information and knowledge allows the creation of networks, not only with people, but also with those sources that mediate our communication and information needs and help us accessing to and expanding our cognitive skills and managing, in this way, our identity and our knowledge.

The metaphor of the liquid times used by Zygmunt Bauman to describe the changes that are taking place in our society helps us to define what has happened as a result of the globalisation and the uncertainty in which individuals are submerged.

"The exposure of individuals to the caprices of the job and property markets creates and promotes division not unity; it rewards the competitive attitudes, while simultaneously degrades collaboration and teamwork to the rank of temporary schemes that should be abandoned or disposed of once their benefits have been exhausted. 'Society' is seen and treated as a 'network', instead of being treated as 'a structure' (much less as a solid 'totality'): it is perceived and treated as a matrix of random connections and disconnection and an essentially infinite number of possible permutations" (Bauman, 2007: 9).

This is how we arrive to the concepts of multinode communication and interconnectivity which Castells (2001) uses to describe a way of exchanging values, rules and knowledge. This is a network capable of expanding and integrating those nodes that are at the same time independent and dependent on the network.

Along this line, the ideas proposed by George Siemens on his book Knowing knowledge are very useful to describe the use of technology to improve people's cognition and construction of knowledge:

"Learning is the process of networking. The nodes are external entities which we can use to form a network. Or nodes can be people, organizations, libraries, web sites, books, journals, database, or any other source of information. The act of learning (things become a bit tricky here) is one of creating an external network of nodes -where we connect and form information and knowledge sources. The learning that happens in our heads is *an internal network (neural)*. Learning networks can then be perceived as structures that we create in order to stay current and continually acquire experience, create, and connect new knowledge (external). And learning networks can be perceived as structures that exist in our minds (internal) in connecting and creating patterns for understanding" (Siemens, 2006: 29).

This new landscape has also changed the systems of information creation, management, distribution, exhibition and dissemination and has led to the emergence of new scenarios of production, interaction, social and cultural construction, where ubiquity and hyperconnectivity are major factors that transform the communicative reality and, in consequence, the educational reality. In the words of Cope and Kalantzizs (2009: 2), it is necessary to use the possibilities offered by the new technologies to allow anyone to *"produce and disseminate information, so that learning can take place at any time and place"*.

2.1. Ubiquity as an object of study

What does ubiquity contribute to the new communicative, social and cultural scenarios? We talk about a "liquid" concept that alters the central position of the narrator in its intradiegetic and extradiegetic roles; as it simultaneously tells and narrates its experience, and is both witness and notary of the experiences of; in its double dimension (receiver and producer). It is a reality that facilitates different learnings and questions the current parameters used in life education. It integrates the informal learning and proposes a new and curious perspective on the phenomenology of gaming.

Ubiquity guarantees micro narrative sequences which can also be didactic, influences the management of the most scarce good which is attention, proposes a route in which consumption is hybridisation, narrative is mediamorphosis, construction is open, there is meaning in chaos, there is connection and co-creation, audiences are segmented and micro formatted in the already blurred boundaries between fiction, reality, marketing and the appropriations of consumption.

The implications of ubiquity are many if we think of the education of young people and their relation with the media. As Gabelas (2011a) points out, the fascination of the audiovisual and the multimedia provides young users (internet users or gamers) a ubiquitous interface that allows them to "enter" in the program or the game, developing not only social and recreational skills but also cognitive and emotional competencies.

This fascination with ubiquity involves views at conflict. On the one hand, it is true that young people are vulnerable, undergo processes of adaptation and experience the pressure of the environment. We do not understand the conflict as something necessarily negative, but as something necessary, as an opportunity to grow. Teenagers live in conflict, moving from interior spaces, which ask them to get out, explore, and discover their identity, and to take risks, to exterior spaces, which establish boundaries, rules and obligations. In a troublesome and complicated identity crisis, teens live a daily struggle with themselves, with others and with the environment, seeking to discover and define their personality. Certainly, the life of teens at home or at school is often complicated, but we cannot forget that they are always growing with difficulties and contradictions.

Teens grow in the paradox of isolation and alienation from the family, and their attempts to become part of a group, moved by their need for integration, sense of belonging, and interaction with peers. This encounter with the "outside" world through digital ubiquity will teach them some social norms and standards.

The relation between young people and ubiquitous screens generates two suggestive icons: the mirror and the mobile phone. The first represents the narcissistic history that surrounds the daily life of adolescents, in which any excuse is valid to look at themselves in the mirror, to strengthen their confidence. Narcissism is a sign of today's youth. Television prolongs this ritual with its advertising messages, which offer young people the reflection of a perfect and, thus, impossible body. Teens feel the need to display their image in public, and become popular and admired.

YouTube, MySpace and Facebook are a global display cabinet where young people leave testimonials and display their bodies and their dreams. The new millennium

expands individualism; the new generations are sensitive to the erotica of the global screen, while relationships in the internet are instant, fast, intense and hedonistic. Juan Manuel Bulacio, President of the Foundation for Research in Applied Cognitive Sciences (ICCAP), argues that individualisation is people's love for themselves. Individualisation, which is characteristic of modernity, has become the hallmark of our times, when the end of adolescence has been extended to 30 years of age. The immediacy of the Internet and its conversational value provides sensorial pleasures to young people who permanently live the here-and-now, moved by their need for identification points, privacy and public spaces, and desires of projection and membership to a particular group, in which real and virtual contacts are complementary.

Mobile devices offer young people the gift of ubiquity, the power to be with everyone at any time and situation. "Heavy users" is the term used by marketing researchers to refer to 14-18 year-olds. For the National Director of the OCU (Organisation of Consumers and Users), José María Mújica, this term already constitutes a claim to attract these young people: "It is an attractive term and soon we will see how there will be mobile phones for heavy users and a whole marketing system around this group. Advertising campaigns primarily target young people. It is a very interesting market because they perform an act of consumption even though their economic potential is not very big. Most of the time, young people are not even responsible for the economic cost of the mobile devices. For this reason, we believe that we should devote special attention to all those campaigns that incite young people to but stuff because an impulsive young consumer will be an impulsive adult consumer. And there is a legal void here" (Gabelas, 2011b).

The mobile phone gives young people a sense of freedom, independence and security. It can be used anytime, anywhere. The fixed-line telephone did not have these qualities because its use was limited to a specific place and the oral language. With mobile phones emerges another form of communication, which is not only verbal but also written and audiovisual.

Teenagers are spectators and players. They have a basic social experience, which is characterised by the multiplicity of connections with the information network. The so called "i-generation" (Marta Lazo, Martínez Rodrigo & Sánchez Martín, 2013), due to its interaction ability, can simultaneously use two or three forms of communication, each of which offers various stimuli, which can lead to a super-saturation that also produces collapses. They were born next to the colour television, cradled by the technological development, ignoring the grand narratives and changing

channels every five seconds. They experience and feel at blazing-fast speeds. The fragmentary stimulation impresses them and grabs their attention, but only for a moment. What are young people watching these days? And, above all, how are they watching? What meanings are produced in these gazes? Audiovisual screens become diversified and individualised: firstly it was the living room, then the TV room, and now it is the corners where people use their mobiles to access to any content. These corners are not only inside the house, but also outside and do not respect borders. These many and new possibilities of socialisation make it difficult for parents to know what their children are watching and creating.

Media literacy (Aguaded, 2009: 7-8) gives priority to the social dimension of the consumption of and coexistence with the screens, like a real scenario for socialisation (with face-to-face and virtual contacts that are complementary). What children and young people watch on TV, or play on consoles, or do on the Internet do not only correspond to an individual cognitive or intellectual process, but also to a recreational and social exercise (Marta Lazo & Gabelas Barroso, 2007). The social game involves the presence of the screens and contributes to the development of users. In this social game people talk about, laugh at, play with, imitate, disagree with, parody, and interact with what appears on the screens. A multitude of fan clubs and virtual communities emerge and grow around TV programmes and video games that make an impact in the identity of young people, because they describe their habits, styles, traditions, language and preferences. Education must be present in this epicentre and this "classroom without walls" must also be part of the educational programs of the formal and informal education.

2.2. Ubiquity as an educational resource

Based on the needs of young people we wonder whether it is possible to change social and cultural relations to make them more human, collaborative and pro-community, in order to apply them to communication in education. How can we change the educational methods and the degree of communication inside and outside the classrooms?

The mentality of young learners is changing. In this sense it is important to consider the social value that the ubiquity of mobile phones represents for them. Young people often use their mobile phone as a symbol of membership to a group, as a means of communication with their peers (2), and to imitate the aesthetic taste of others, which is related to the immediate generation of information. To these features offered by mobile phones we should add the ease of use, the accessibility, comfort,

and the pleasures they provide by giving the user the power to obtain information instantly, to be "always available", and to be aware of what they find or may find interesting.

Young people consider their mobile phone to be an identity-defining feature, as they allow them people to reflect what they like and to appear to be unique, individual, to have certain status, and to be related to a certain brand. Mobile phone offers young people autonomy and connection, and allows them to evade parental and adult control. The permanent connection is tangible proof that with mobile phones young people may transgress rules, controls and social authority. Young people like to share, even their intimacy, to promote an open attitude. The mobile phone combines the public and the private worlds (e.g. manifestations, networking and image – privacy and prestige).

To these aspects we should add the fact that the internet provides young people, and all people in general, access to information and knowledge, and as a result we can change and build new educational opportunities, according to our needs. We have seen how ubiquity offers a digital future, a social culture that is open to new paradigms, which together with the social networks enables a new teaching and learning system that transforms the reality of young people and consequently the traditional educational-communicative process and offers the possibility to step out of the educational institutions and strengthen the teaching and learning process outside of the classroom to which education was previously circumscribed.

The new generations move in these ubiquitous territories, in which they acquire and develop skills that remain hidden to our educational system which, as Cristobal Cobo (2011) points out when talking about "invisible learning", is still giving priority to "a formal, standardised, uniform and parametric education" and has not realised that what is essential in learning is still invisible to formal education. This does not mean that the use of new technologies is essential to communicate, educate and learn today, and that their use implies new learning and communication models. What it means is that the new digital media have enabled "a new educational paradigm" (Cope and Kalantzizs, 2009: 2). As previously mentioned, learning has been (or is being) developed and the educational needs have changed (or are changing). Today, education remains limited by traditional teaching system which, in the words of Roberto Aparici (2010:10), works "as if it were the production chain of a factory".

Here it is important to make a remark: when we talk about ubiquity, we do not refer to the mere use in the classroom of tools like computers, tablets or mobile devices that process, synthesise, present or facilitate the management information, because they do not generate new knowledge by themselves. Technology cannot generate

meaningful learning without the support of a pedagogical model. The use of technology implies a change of attitude and methodology that some oblomovist (3) teachers have not yet comprehended. That is why schools continue to superimpose and fit new technologies onto a traditional education model without previously undertaking a change of mentality in the classroom. It is necessary to undertake this change in attitude in order to move towards an active education that is based on the collaboration and autonomy of learners. In this new education system learners will find motivation in the maximisation and use of their creativity, participation, experiences, critical thinking, problem-solving abilities, emotive nature, and the inclusion of their digital leisure practices in their education. This is because the new form of education proposes diverse models of cultural practices that reflect the basic principles of educational innovation such as: the relevance of the student as educational subject and object; the prioritisation of the cultural and social contexts of learning; the development of critical thinking through the creative resolution of conflicts; the formation of collaborative groups and learning communities that seek the common good and the collective improvement; the conduction of research projects that benefit society; and the creation of nodes that connect schools with the networks that make up society.

However, we have no doubt that by using technology to connect to sources of information and knowledge we create networks, not only with people, but also with these sources that mediate our communication and help us access to and expand our cognitive skills and to manage, in this way, our identities and our knowledge. This is how we get into the universe of ubiquity, which means learning anytime, anywhere, anyway, and at any age according to the needs of learners, regardless of the degree of formality or informality. The presentation delivered by Nicholas Burbules, co-founder of the "Ubiquitous Learning Institute" of the College of Education of the University of Illinois, in Argentina in April 2009, about the impact of ICT in educational institutions (4), highlights the need for ubiquitous learning based on the merger of the technological and socio-cultural environments. Burbules also mentions the most important aspects of this model, which is based on opening the doors of the educational institutions to the use of ubiquitous learning based on new environments formed by the union of the socio-cultural and the technological spheres. This is how we reach the concept of education 2.0, which uses the following ideas, which had been previously proposed by different pedagogical reformers and the initiative titled *Habilidades para la Vida* ("Skills for life") (Gabelas, 2010b):

- To focus on students.
- To prioritise their social aspect and motivate them.

- To help them to develop their critical thinking to solve problems.
- To connect the school with other significant learning places.
- To use social networks to form participation communities where knowledge can be generated.
- To work to achieve a collective good.
- To consider learning as entertainment.
- To carry out projects through research.
- To undertake a change in attitude regardless of the technology.

The education 2.0, as an element that encompasses education and communication cannot work without technology. To the use of mobile technology and the educational openness that ubiquity provides we have to add the social implications of the "network society" and to find out how to transform it to commit teachers and learners to critically analyse the social reality and contribute to its transformation and improvement.

At this point we want to insist on the fact that ubiquity itself does not represent a new way of learning, but does transforms society and thus education, into a ubiquitous and open scenario of innovation, or as Juan Domingo Farnós Miró points out in Gestión de los conocimientos inclusivos y ubicuos en una sociedad digital ("Management of inclusive and ubiquitous knowledge in a digital society"): "[education] needs to be open, flexible, inclusive (so that everybody can reach 'their' excellence, and therefore ICTs and artificial intelligence will play an essential role), and at the same time Ubiquity should be a benchmark, since there should not be time-space gaps in the acquisition of knowledge and its implementation in the labour market, which is so important nowadays, must have all the possible development facilities and should no longer be the prerogative of specific educational bodies, but should be carried out in any situation and location" (Farnós Miró, 2010:12).

Students learn by integrating the social, cultural and communicative practices that they use in their leisure time to the use of new technologies in the school. In this way, schools develop citizens who have constant digital competencies to manage learning, which occurs permanently, distributed in time and space, as well as socio-cultural competencies. In order to transform ourselves and contribute to the transformation of others we must take advantage of the resources, treating them in a ubiquitous manner. Computers, mobile devices and social networks are already an indissoluble part of our learning and social life: they extend our mental capabilities;

facilitate communication and, as a consequence, the construction of meanings at any time, in both synchronous and asynchronous modes; enable the generation of a culture of participation; and "*have the undeniable value of bringing formal and informal learning together. Since they allow students to express by themselves, to building relationships with others, and to meet the requirements of their education"* as stated by Juan José De Haro (5). Searching and storing information in our memory is no longer important. What is important is to know how to find and manage knowledge with the help of the available devices. It is essential to realise that the student of the 21st century has to know how to successfully move through these liquid territories (Bauman) of the new technologies.

2.3. Ubiquity as an instrument of expression, knowledge generation and socio-cultural participation

Once we have overcome the anachronistic and obsolete dichotomies between face-to-face and virtual in the real world, because reality has different dimensions that are complementary and necessary, we can start to talk about the different identities in the digital universe. The concept of identity is closely linked to the concept of environment. When we face the obsolete discourse of the ICTs, in an implicit way we keep using the terms "native and digital immigrants" and assume children have very good technical and communicative skills which is not completely true. This appreciation, very characteristic of the perception and discourse of adults (teachers and parents), as it has been demonstrated by the latest study carried out by the Conflict, Childhood and Communication research group (CONINCOM according to its initials in Spanish) (6), responds to the fact that us adults separate two dimensions of reality (the physical and virtual dimensions), while minors perceive and experience a single reality, which is in turn an environment.

In our opinion, we need to understand the cultural and digital practices (not necessarily the ICTs) as something that is exercised and performed in an environment that involves different reflections, all very close to the concept of ubiquity. First of all, the social and technological determinisms are overcome, understanding that technology has been created by humans, but that it has changed humans themselves, because it has created an environment that is different from the analogue and exclusively face-to-face environment. Secondly, because pretending that we master and control technology only because we are aware of its effects and consequences, it is too pretentious. When McLuhan talks about the "global village" and "the media as an extension of the human body and senses", and when Castells explains cyberspace and

what occurs in it as a "Networked society", were are describing the same thing, a phenomenological experience that takes place in a changing, fluid and unstable environment. A ubiquitous environment that allows people to learn, to know, to coexist, communicate in many ways, anywhere, anytime, and during the whole life.

The aforementioned environment facilitates and maximises the existence and expansion of the digital identities in the liquid fluidity of knowledge and its shortcomings. Castells speaks of three types of citizens; the misinformed, who are those that believe that they are informed because they have seen the images and their many representations in the various media formats and platforms and in particularly in television news programmes; the over-informed, who are those that are saturated by news programmes and compulsively consume more and more data; and finally, the informed, who are those that use training, time and criteria to filter, select, process and pertinently apply the information they manage and access to.

The types of citizens described by Castells (2001) reflect the different levels of media literacy or digital trans-literacy that exist among citizens to develop their learning. The construction of the digital identity implies being in the media environment. This construction indicates that the digital media skills have been acquired. We prefer to refer to these competencies as RICTs (Relationship, Information and Communication Technologies). This term, which was coined by José Antonio Gabelas Barroso, Carmen Marta Lazo and Daniel Aranda (2011) and subsequently developed in the blog titled *Habitaciones de cristal* (7), helps us to better define what our students need.

By building a liquid digital identity, students become educated, critical and autonomous beings who develop strategies. And it is in this construction of competencies where the R Factor (inspired by the “R” in RICTs) works as a potential relational for the horizontal and dialogic dynamics, which are amplified and re-scaled in this way in the digital environment, if previously there is a liquid why and how that justify the action which is also change. The inclusion of relationships has implications that lead us to think of students as entities and to the possibility of helping them reach their potential in a holistic manner to cover the three dimensions of the individual (cognitive, emotional and social) and, on the other hand, it proposes changes in the nomenclature, by linking the other elements and at the same time diminishing their importance.

- The cognitive dimension: to know how to transform information into knowledge; to support students in their information processing so that they are capable of

analysing, questioning and understanding it and developing their critical thinking to visualise new approaches to solution of problems.

- The emotive dimension: to build an emotionally-balanced identity; to engage students' emotional intelligence and guide their feelings and emotions to create connections with their peers, so that they feel socio-emotional empathy; to motivate students to search results and make decisions in a creative way; to help them to adapt to new situations and environments; and to help them to control negative impacts abilities through the acquisition of "emotional competence" (Ferrés, 2003: 49-69).
- The social dimension: to learn how to express ideas and communicate with other users in the internet; to interact, socialise, share, interact and form nodes in the networks.

  We can see how the relationships implied in the letter "R" constitute a "R-evolution" that reorders the centre of gravity of education and ensures the definitive entry into culture of the second type of "orality" (8). The R factor involves learners in all of their dimensions and "R-elates" them with communication to transform them into both senders and receivers, involving their emotional intelligence and empathy and maximising their social connections with other sender-receivers who will lead them to exchange ideas, think, create and remix ideas creatively, consolidating the "feed-feed" model proposed by Roberto Aparici and Marco Silva in *Pedagogía de la interactividad* ("Pedagogy of interactivity") (2012) to generate knowledge. The R facto also transfoms people from senders-receivers to senders-producers in a horizontal line in which all the people are senders and figures that move in the Internet and communicate and generate through the mediation of mobile devices.

  The R factor also "R-elates" learners with information and incites them to analyse and develop their critical thinking in the search for content in order to mature intellectually. Finally, The R factor "R-elates" learners with the technology so that they can express in the way they do it during their leisure time and, thanks to the new language of hypertext, links, tools and networks, they can continue creating, remixing, redesigning and sharing (with other users) contents that are significant to them.

  In this way, we immerse ourselves in the universe of connected nodes proposed by Siemens (2006). Creation and expression do not exist inside the individual; they exist outside the individual, in these relationships that are built online and feed, not only on the information made available by organisations and institutions, but also,

and mainly on the exchange of information with peers. These connections allow apprentices to build their knowledge.

However we should not be naïve, or think that technology, in general, and ubiquity, in particular, are "white" or aseptic factors or potentialities of this environment. There is a powerful industry that proposes and imposes technology very arbitrarily as the supreme value, based on permanently obsolete consumption. Technological innovation demands communicative and pedagogical innovation, which includes the appropriation not only of the tool, but also of the socio-cultural environment and context in which ubiquity is produced, generated and regenerated.

As many authors have pointed out in the first decade of the 21st century (Postman, Eco, Castells, Wolton, Ramonet, etc.), technology is ideology. With the latest generation devices, technology, which is also ubiquitous, gives citizen the access that was previously fenced in by the large media groups. While it is true that behind the discourse of "techno-marketing" there are many commercial interests, it is also true that the apps and the intelligent terminals allow people to "be here and now at any time" as receiver and producer at the same time; as an author in the recreation; as a writer of the everyday narratives. Today, ubiquity allows people to have accessibility, comfort and ease to be a direct witness of the reality and be able to share it. So the ubiquitous technology moves in the tempestuous land of ambiguity: it is an opportunity for participation, it is a fantastic showcase that silences different gaps and emphasises the hegemonic discourse of the market.

3. Conclusions

Screens focus, project and reduce our sight, all at the same time. They focus our sight through use of frames and the editing of the action; project it through the virtuality of its components of simulation, interaction and hyper-mediation; and reduce it because they set agendas, scripts, trends and currents which in a peculiar way, particularly in the social networks, establish what is good, real and authentic, and exclude many other realities that produce the digital divide (technical, educational, cultural and productive disconnection).

Active audiences exercised their media competencies in the two directions mentioned throughout this article: deconstruction and reconstruction of the text, which is understood as any media production, regardless of format and platform. In the deconstruction audiences undertake an analytical reading that results in a more or less consensual negotiation or a more or less radical resistance to the proposed meaning.

In the reconstruction, audiences apply strategies of recreation, mixture, rearrangement, often with parodic purposes which produce discourse that is different or alternative to the one proposed by the media texts.

We believe that this double direction is articulated from and with a ludic dimension that affords a high degree of immersion, simulation, and recreation. Just like virtuality, in general, and in the ubiquity, in particular, gameplay also allows people to transgress the limits of space and time.

The ludic ubiquity mixes the physical and material, local and global, emotional and rational, real and virtual spaces. The traditional game and game played in the different and varied technological environments, which are mediated by the social networks, the Internet and apps, converge in their interests, interactions, processes and constructions. The immediacy, the sensory gratification, the festive tone, and the little effort of the traditional game is amplified by the ubiquitous possibilities of technology, which is a shock wave with great social, emotional and cognitive potential.

In contrast to the small child who grows and learns with the game, the adult person resists its influence because he or she frequently and largely considers it to be a waste of time, frivolous and non-productive. However, big brands such as Google, Mango and Benetton have created specific recreational spaces where young and creative people can generate new projects and design news trends to make their products attractive to different targets and establish new trade routes.

The construction of the digital identity implies being in the media environment. The completion of this construction indicates that the digital media skills have been acquired, and this is what we have termed as RICTs (Relationship, Information and Communication Technologies). The R or relational Factor maximises the horizontal and dialogic dynamics, which are amplified in the digital environment, and develops the three dimensions of the individual: the cognitive, the emotional, and the social.

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