Preface

Such as Plato in his *Phaedrus,* we are nowadays witnesses of a cultural transition. This transition is from a literary society to a digital one. In this society the organization and circulation of knowledge and culture is made possible by new technologies like the Internet, PDAs, and mobiles that are changing our social life and more specifically the function and the modalities of education.

Plato sustained that most people, because of writing, would have ended up "believing to know many things, while actually *they do not know them.*" Writing emancipates the subject from the necessity to remember making easier the storage and transmission of the cultural patrimony and at the same time expanding the limits of what can be transmitted to posterity. So, the age of great syntheses, when the poets' formulas still succeed in epitomizing an entire culture has been progressively replaced by a new cultural reality marked by a growing gap between what can be potentially known and what is actually known, a gap which is effectively illustrated by the metaphor of the library.

In the digital age, such gap is getting deeper. The new techniques for storing data (through CD-rom, DVDs, online repositories) and circulating them (through networking) expand the potential for knowledge up to the utopian limits of total availability: a completely transparent and interconnected society whose every single part contains information about all the other ones. The metaphor which best illustrates this new society is that of the hologram:

Not only every part of the world, but the world as a whole is more and more present in all its single parts. And that occurs at the level of nations and peoples as well as individuals. Just like every point of an hologram contains information about the whole it belongs to, similarly every individual receives or consumes the information and substances coming from the whole universe. (Morin, 1993, pp. 22-23)

But digital media also abolish the identity between physical and social space which used to characterize communication before their advent: a mobile call, a network interaction, a teleconference link are all possible ways of communication even if the two interlocutors are

not physically present in the same place. In each of these cases, digital media create another place which is the social place of the communication contact they make possible.

A similar situation already existed in the literary age. The simple act of writing a letter, for example, does abolish physical distance by creating a kind of communication which goes beyond the presence of sender and receiver in the same place; yet it cannot render the hot and personal character of face-to-face interaction, although it gives the sender a higher control over the written document than the sender of messages via electronic media. In a literary culture, adults exercise full control over the creation and transmission of knowledge, writing being their instrument, first because to have access to knowledge it is necessary to acquire some specific alphabetical competences, and second because it is the adults who regulate younger generations' reading of certain books rather than others. This power is increasingly being put into question in the contemporary society of images where television and the other electronic media, abolishing all sense of place (Meyrowitz, 1995), addressing the adult and young generations without being able (nor willing) to select what can or cannot be shown; literally, images are unrolling in front of everybody's eyes making no distinction among their audience!

Finally, a third important characteristic regarding digital media is the subject's cognitive re-orienting occurring at least at three levels.

Whereas in the West, language has been evolving in terms of a progressive loss of its global, synesthetic, multisensory relationship with reality in favor of a symbolical-conceptual type of thinking, digital communication seems to be leading back to an old sensory relationship with objects, promoting a sort of *resensualization of language*. We can think, for example, about the interface function in word processing: mouse and tactile/vocal interfaces are definitely extending knowledge from the abstract level of categorization to the practical one of sensory contact.

This sensory recovery implies two more aspects. On the one hand, if alphabetical writing, by virtue of its double articulation, had been progressively emancipating the code from reality, the different forms of digital communication seem to be recovering it, although it is a kind of reality which might be no longer "real." As a matter of fact, the electronic image, given its high degree of likelihood, credibility, and manipulability, can dispense with the reality it is representing and indeed propose itself as a new form of reality. The consequence is *the jeopardization of the relation reality-truth* on which the whole Western gnoseological tradition has been based for centuries. In the pre-electronic age what manifests itself as real is also actually real, but in the electronic age the real, although being absolutely as such, may also turn out to be false. As a result it may be only said that in the new cultural horizon the whole categories of "real" and "false" should undergo a deep critical revision.

On the other hand, it seems that with electronic communication the conceptualizing and abstracting tendency of literary thinking is now being inverted in favor of a new form of culture characterized by immediacy, interactivity, and intimacy. *Thinking is more and more deconceptualizing itself*, gaining back its original relationship with things as well as the capacity to proceed by associations and analogies rather than strict formal implications.

These observations ultimately converge to stress the extraordinary impact of digital media on the educative processes which are, in fact, undergoing a paradigmatic change in their management and organization. This change makes possible we talk about a new form of literacy, with its specific competencies. According with culture and media with which this literacy is working we can define it as digital literacy. This book discusses its characteristics particularly from an educational point of view.

The book is made of four sections. The contributions of the First Section (The Information Society: A Conceptual Framework) give a theoretical framework of the main transformations produced by ICT in our society. This framework is built from different points of view investigating the modalities according to which knowledge is socially built, the tools supporting this social construction, social and epistemological implications of these facts.

In the Second Section (The Information Society: Educative Researches), the idea is to present some recent researches about new media consumption. These researches were selected according to the age of the subjects involved in them (children, adolescents, young, parents) and so that they can give a wide international map, from Europe to North and South America. The aim of the section is to point out that ICT not only transformed social practices, but also represent a real educative challenge for our early future.

The Third Section (Media Literacy: Definition and Perspectives), starting from the acceptance of this challenge, the authors try to define the role and the perspectives of what we can call a New Media Education. In almost two senses, the first is that New Media, thanks to their specific characters (mobility, personality, user generated contents), need new educative strategies and methodologies; the second may be that this upgrade of the traditional methods of Media Education is not sufficient and so what it should be done is a real change of paradigm outlining a new Media Education.

Finally, in the Fourth Section (Media Literacy: Educational Outlines), the book provides some case histories for understanding what does it mean, on the field, developing Digital Literacy strategies in the schools and in informal education environments.

Chapter I. Knowledge, Culture and Society in the Information Age

In this chapter, Rivoltella describes the transformations of the media role in our society. The transition here is from a society into which media were only one of its elements among others, to a society whose structure is made by and of the media. It is the same "skin of the culture," according to de Kerkhove's (1995) definition, that is changed. This means that the mediation of the media becomes our normal way of relationship with the world. As Thompson (1995) says, the media are mediating our knowledge, our experience of the history, and our interactions with other people. In this kind of society, Media Education is not yet one of the focuses of education, but it must be thought such as the main educative goal. The only condition is that Media Education could be able to understand the new aspects of Information Society and prepare a change in its own methodologies and tools, as it will possible to see in the last two sections of the book.

Chapter II. Communicating in the Information Society: New Tools for New Practices

Cantoni and Tardini reflect on the changes that new digital communication tools are rapidly spreading worldwide on the ways we interact and communicate, both in everyday life and in our professional activities. This is done providing a conceptual framework for these tools, introducing them both in their sociological and historical context, and in the main political,

economical, legal, and ethical issues they raise. This framework prepares, in the second part of the chapter, the description of a map of the different tools and devices that allow digital communication will be drawn, and the characteristics of the settings and of the language they rely on will be presented (Crystal, 2001). The features of the communications taking place by means of ICTs are strongly dependent on the tools and devices employed: different tools and different devices impose different constraints and offer different options to interlocutors (Clark, 1996; Clark & Brennan, 1991). Special attention will be devoted to so-called "social software," that is, those tools designed to support distance group collaboration, such as blogs and wikis, and to the challenges they're producing on several social practices.

Chapter III. Digital Media and Socialization

Morcellini argues that communication among individuals and society is deeply changed in relation with the post-modern "crisis" we can well define with the metaphor of liquidity (Bauman, 2004). The challenge of the chapter is to try to describe this transition not necessarily in terms of instabilities and insecurity, fear, and distrust: from the point of view of communication, the change isn't a shock, but a chance. The reason why is that digital media become expression of new social and cultural conditions, inducing three dimensions of change. They help people to build a new world vision and new life styles. They prepare the social system to react to the changes metabolizing them. They find in the social dimension a new original way to define concepts, share values, and build up networks.

Chapter IV. New Episthemologies in a Changing Media Environment

Ardrizzo reflects on the changes in the epistemology we can argue passing from Modernity to Information Society. The idea of having "a few and simple laws" ruling man and nature is replaced by the image of a complex universe, the causal thinking by a new epistemology of technology, seen as a necessary element for understanding meanings and making sense of those complex and dynamical universes in their process of construction. In this cultural framework it seems that schools and universities are not able to accept this challenge: they are continuing to provide linear methodologies, while on the contrary students need abilities for building cognitive maps and for selecting information. They don't put mind to the fact that the new media-sphere is really producing a new noosphere with its cultural codes and its languages. They don't have effective tools for interpreting youngsters behaviours that are dependent from these new codes and languages; so the new media challenge in education is precisely an epistemological challenge: Digital Literacy, finally, is a Knowledge Literacy.

Chapter V. Integrating Technology Literacy and Information Literacy

Sharkey and Brandt start on the analysis from the traditional difference between Technology and Information Literacy. The first one seems to be wider, referring to general skills

in acting with and through technology; the second one, on the contrary, is more focused on computer, Internet, and the other digital devices. According to the authors, in the so called Information Age, it is necessary to develop both of these literacies. In fact, most of the technological skills are involved with information (as we show in Chapter 11 and 12 of this book) and, on the contrary, it seems really impossible to develop informational skills without technological competencies. The result of the mediation between them is an integrated solution of Technology and Information Literacy; this could be considered as the condition starting from which to imagine the space and the role of what in this book is named: *Digital Literacy*.

Chapter VI. Growing Up Wireless: Peer Culture and Family Education Models in the Age of Mobile Communication

Caronia elaborates her analysis starting from a phenomenological approach to culture and everyday life. According to this perspective, individuals are constantly engaged in constructing the meaningful dimensions of the world they live in. Every day life needs thus to be conceived as a never-ending cultural work through which social actors produce meanings, structures, and social organization of the world they live in, as well as the identities of themselves and the people they interact with. Technologies participate in such a process: as cultural artefacts, they both are domesticated into already existing patterns of meaning and create new ones. This is even more so with information and communication technologies. Their progressive introduction into people's everyday life, the multiplication of possible new courses of action, ways of communicating and getting information, hypothetically expand the range of tools through which individuals construct culture and identities. Overcoming the "subject-object" duality, we need to rethink the relationship between humans and technologies in term of reflexivity that is a mutual construction of meaning and a reciprocal sense making. With this kind of approach, the author focusing on the role of mobile communication in the construction of family and peer social organization and culture. Drawing upon data from recent research, she analyses the role of mobile phone in the rise of new cultural models of parenting and its domestication by teenagers as a tool for group membership and peer culture construction.

Chapter VII. Children and Computers: What They Know, What They Do

Ferri and Mantovani refer in their chapter to the first findings of an ongoing research project aimed at studying how children and adults explore the potentiality of the new technologies in family and in preschool (Tobin, Wu, & Davidson, 1989). Moving from a review of the researches about children and computer, the author discuss the ways in which three to six children use and explore the new digital technologies and interpret their meanings and functions, studying the ideas and representations of teachers and educators in regard to it. Too often computers and digital technologies are introduced in early childhood settings without a greater understanding of their cultural meanings, their cognitive and social potentialities

or limits and this is particularly true when the children are in preschool. On the contrary, only creating dialogue opportunities we will promote on one hand a higher awareness and a deeper understanding of the role of the new technologies in the early years, while helping on the other to provide bases to the design of a way "*to mediate"* the introduction of technologies in early childhood. The way in which children explore and use computers (individually, with other children or with the adults) is strictly linked to the adults' ideas and beliefs and to their educational models and representations. New digital technologies may become a catalyst for exchange and sharing among adults who care for young children and a starting point for promoting a new way to overcome the "digital generational gap" (Papert, 1996) between children, teachers, and parents to promote a new digital literacy and fluency in schools

Chapter VIII. Adolescents and the Internet: Media Appropriation and Perspectives on Education

Bevort and Breda refer to the results of the International Research *Mediappro* developed in several European countries about the appropriation of electronic media by youngsters and the problems of safety connected with it. The main hypothesis underpinning the research is that young people's safety on the Internet and in their use of other digital media depends largely on their own actions. Consequently, it is essential to help young people to be as competent as possible when they use network communication devices. In order to do this, the research identifies how young people appropriate digital media and how their practices differ within different contexts of use (at school and at home, for example). The landscape depicted is undeniably more reassuring than the landscape depicted by many media discourses based on exceptional, idealistic, or dramatic events: youngsters are more critic and conscious than we might expect. On the contrary, educational institutions, that is, essentially the school, but also associative educational spaces and media (subject to a more in-depth study) do not seem to have measured the importance that the new media have acquired in the daily lives of young people remaining unable to act so that educational challenges coming from these media could be accepted finding their answers.

Chapter IX. Learning with New Media at the University: From Representations to Utilization

Mamede and Ribeiro present in this chapter the results of a research made at the Catholic University of Rio de Janeiro, in Brazil. The focus of the research were the uses and appropriations of the Internet by young university students; the methodological approach adopts the concept of "social representation" of Farr and Moscovici (1984) for investigating the relationship between youngsters' values and behaviours and those that are developed in the social cultures. The results are quite interesting: it is sure that the social origin of the students influences their access to technology, but otherwise it is also true that is no possible to observe the same gap from the point of view of the practices, practically the same within all the subjects who took part to the research.

Chapter X. Rethinking Cognition, Representations and Processes in 3D Online Social Learning Environments

Jones and Bornack reflect in their chapter on the application of 3D environments in non-game settings, a topic really actual if we put mind to the recent social affirmation of *Second Life* and to the interest of education for its teaching and learning opportunities. In more general terms, it easy to consider how nowadays the Web 2.0 applications are quickly developing, becoming a normal space of social relationship for youngsters. In these environments, they share images and videos, build up their social networks, find out learning opportunities. So it is easy to understand why formal education is so interested to import the same practices to traditional teaching and learning spaces. But this transfer could not happen without a specific instructional design. The chapter provides ideas and samples in this direction.

Chapter XI. Investigating Information in the Multiscreen Society: An Ecologic Perspective

Pinto investigates in his chapter the new challenges that education meets in a society where we are assisting to a proliferation of the screen. This means that individuals more and more are invited to integrate these screens in their lives with important effects on the modalities according to which they interact among themselves. So it seems urgent to develop media education so it could lead this process, providing new forms of cognitive scaffolding for the youngsters. Acting so, media education assumes an ecologic character, thinking of the media as a real new environment.

Chapter XII. From Media Education to Digital Literacy: A Paradigm Change

Rivoltella argues in this chapter that the specificity of digital media (Internet, Mobiles, palms, i-pods) challenges the traditional media education approach to the media. Digital media are no one-way media, but really interactive media; therefore, the problem with them is not only the risk of a passive consumption and a lack of critical thinking, but the necessity to control the modalities with which (young) people interact with them and with other people thanks to their mediation. On the other hand, digital media make easy not only to receive messages (this happened also with traditional media), but mainly to create and to build them, forcing us to reconceptualize receivers also as producers. For these reasons, it is necessary to imagine a new paradigm for media education whose focus is the idea of citizenship. The aim of digital literacy is to help people to become active and conscious citizens of the Information Society (Rivoltella, 2006). In school, this does not mean to make place for a new discipline, but to develop a cross-curricular attention so that students have the chance to learn in a digital environment and teachers to adopt media and communication as a teaching style. Interactivity and user content generation could be the new methodological perspectives of this new paradigm.

Chapter XIII. Creative Remixing and Digital Learning: Developing an Online Media Literacy Tool for Girls

Hobbs and Rowe review in this chapter the theoretical framework, development, and implementation, and assessment of an online creative play environment designed to promote media literacy skills for girls ages 9 to 14. The road-map of the contribution is the search for a new concept of media literacy in a social environment like our where digital media are added to the complex mix of media texts and technologies becoming pervasive in the lives of young people. This concept passes through the idea that highly interactive creative play activities guide users through the process of deconstructing, analyzing, and creating media. Among the practices that pupils can play in this context, remixing is one of the most interesting. In remixing, media texts get reinterpreted by other creative people through techniques of collage, editing, and juxtaposition. Remixing is type of creative expression. Through remixing, people can generate new ideas. It can be a vehicle for people to comment upon the role of media and technology in society. Finally it could be used to promote critical thinking about the media, popular culture, and digital technologies.

Chapter XIV. Dream Schools: The Architecture of New Literacies

In this chapter Tyner investigates digital literacy as a driver for designing contemporary learning environments, where a new generation of students and teachers is demanding "every day" literacy tools both inside and outside the traditional classroom. Existing and emerging research related to digital authorship and reception is beginning to shape a vision for literacy practices of the future. These include theory and practice around digital poetics, remix genre, vast archives of open source materials, and the restructuring of information through database applications. New literacies present immediate challenges, as well as opportunities, for educational institutions with both predictable and unpredictable outcomes in the design of both physical architecture and cognitive design processes. Although it is widely acknowledged that literacy is important for individuals to strategically access a wider range of social benefits, the integration of new literacies into learning environments calls into question the mission, values, benefits, and liabilities of schooling for individuals and societies in the 21st Century.

Chapter XV. Digital Production and Media Education: What do Teachers Need to Know?

Burn starts in his chapter from the 3C Model of Media Education developed by Cary Bazalgette at the British Film Institute and largely shared all over the world. This means to think of Media Education as including a cultural element, a critical element, and a creative element. Since this last involves complex forms of digital production in a range of moving image media, the problem is to understand what teachers need to know in order to manage learning in today's media education classrooms and in those of the future. Burn explores how teachers learn about the design processes involved in digital video and computer games

and how they relate these to contemporary theories of the moving image and games, as well as to their own classroom practice. Doing that, the chapter draws on recent research in this field and on the work of teachers undertaking Masters' courses in media education at the London Institute of Education.

Chapter XVI. Globalisation and New Technology: The Challenge for Teachers to Become "Translators" and Children, Knowledge Seekers

The contribution of Caron starts from a question. The question is whether we can consider new technologies as the magic bullet of education. It is clear here the provocation the question contains: to imagine new technologies like a magic bullet means to think that it is enough to introduce it in the schools for producing changing and innovation. The research already showed the error of this deterministic vision. On the contrary, it seems important to consider that the introduction of new technologies in education requires an examination of the actors' role, mainly of the teachers, in facilitating innovation, conveying culture, and acting as a conceptual translator. By modeling and teaching students critical and social skills, teachers can help tomorrow's citizens to use the new flow of information to meet the challenges of globalisation. The chapter demonstrates that.

Chapter XVII. The Future of Digital Society and the New Values of Media

Perez Tornero in his chapter starts from the idea that Information Society is basically a mythological structure. This means three things. First of all he reflects about the role that this myth plays within the most extensive discourse on social change. On the second hand, he points out that this myth is activating an anthropological transformation in our society and in humanity: some aspects of this transformation are clearly presented in the chapters of Caron and Caronia, speaking about a new media anthropology. Finally, the possibility of defending the autonomy of consciousness and the promotion of human dignity through Media Education. This is the creation of a kind of counter-myth that would create an up-to-date and renewed Media Education. About this new idea of media Education, most of the authors of the book reflected in depth.

Chapter XVIII. Digital Literacy and Cultural Mediations to the Digital Divide

Girardello and Fantin discuss this problem of the distance between those who have and those who do not have complete access to the archives of culture made available by the media and the possibilities of recreating them critically. The focus of the contribution is on the new configurations that the problem takes with the intensification of the presence of digital technologies in education and culture, seeking to identify possible contributions to the dilemmas

of media education and of digital literacy emerging from the Brazilian scene—a country of continental dimensions, where the pulsation of globalized media culture co-exists with a strong preliterate popular culture, often in the same city and just a few blocks away.

The approach of the authors is based on the pedagogy of dialogue of Paulo Freire. Its aim is to point out some indications to establish a digital inclusion that transcends utilitarian limits and a merely operational access to machines and programs. That is, an inclusion that is also social, cultural, and political. For doing so, it is necessary to develop an educational approach able to include: *culture*—understood as the expansion and possibility for various cultural repertoires; *criticism*—understood as the capacity for analysis, reflection, and evaluation; *creation*—understood as the creative capacity for expression, communication, and construction of knowledge; and *citizenship*—that probably is the synthesis of the three previous concepts.

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