

***EDUCATION, MEDIA AND INTERNET: challenges and possibilities based  
on the concept of digital literacy***

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**Abstract**

The strong presence of digital communication in schools' routine demands an education that occupies the place of criticism and mediation before the speeches in use. Aligned with this perception and based on literature and recent studies, we will discuss the concept of digital literacy, which involves the development of skills for a critical and knowledgeable use of digital media, especially the context of learning active methods. The final considerations point out the challenges encountered to establish a virtuous dialogue between Education and Communication and suggest possible ways for the use of ICTs that emphasizes its communicational character, as well as the dialogue with the Morenian concepts of spontaneity and creativity.

**Keywords:** education, literacy, active methods, media, internet

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## INTRODUCTION

The reflection on the amplification, diversification and deepening of the presence of the digital communication apparatus in daily life, and especially in the daily life of educational and learning institutions, demands new and continuous efforts in educational practice and has occurred, according to Citelli (2014, pp. 70-71), by means of at least three large lines of force. The first is that education functions as an advocate of values, standards and judgments to combat consumerism, eroticism and other socially disruptive appeals. The second sees education as the place of a counter-discourse before the media that convey and legitimize the values of the ruling classes. The third, consisting of less reactive contributions, identifies the cultural level and socio-historical relations, which include the School, a mediating capacity, capable of reworking the meanings put into circulation by the mediatic discourse.

In this article, we propose a discussion in line with the second and third aspects. Secondly, we will retain the notion that the media conveys extremely powerful worldviews, against which education is expected to work with the aim of collaborating for the empowerment of individuals. Third, we appropriate the idea of mediation, proposed, among others, by Martín-Barbero (2015), which inserts the role of the media in broader social and cultural processes.

To address this interface between ubiquitous communication and an education increasingly challenged by transformations materialized in numerous technological devices, we will highlight the concept of literacy, here translated as literacy,<sup>12</sup> especially digital literacy, which involves skills for a critical and informed use of digital media. Something that gains more complex contours with the convergence of technologies, formats and spaces; fusion of information and entertainment, work and leisure; and dilution of divisions between public and private, national and global; and even between childhood, youth, and adult life (Livingstone, 2011, p. 22).

From a preliminary survey of the recent literature on digital literacy, we will discuss the need for broadening roles and redefining purposes of education (Citelli, 2014, p. 73), with the aim of contributing to the constitution of social subjects capable of establishing critical dialogues with the communicational and technological realities.

## A LITERACY FOR THE DIGITAL AGE

Raymond Williams (2007) places the emergence of literacy in English at the end of the 19th century, as a word derived from "literature" and created to express "the attainment and possession of skills seen as increasingly general and necessary" (Williams, 2007, p. 259). Definition that, impacted by the technological revolution, especially the internet, starts to involve the domain of a new alphabet, digital syntax and grammar to handle the information in everyday life.

In order to deal with this new type of literacy, Paul Gilster proposed the concept of

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<sup>12</sup> Difficult translation term, referred to as literacy, literate or even literary and literature. In this text, following the choice that prevails in the scientific literature reviewed, we will use the term "literacy".

digital literacy,<sup>13</sup> in a book of the same name, published in 1997, which refer not only to the ability to deal with digital sources, but also to a type of mentality needed to navigate the contemporary information flows (cited by Bawden, 2008, p. 18). Gilster proposes an open definition without listing specific skills, and despite some inconsistency in the use of the term, several authors have followed this view, considering digital literacy (LD) as a broad and appropriate concept, which also includes the resourcefulness of using non-digital sources (cited by Bawden, 2008, p. 28).

Rosa & Dias (2012, p. 51) proposed the implementation of the concept through the combination of two complementary dimensions of functional skills: technical and operational dimension in information and communication technologies (ICT), which involves knowledge for handling of ICTs for acting in the digital environment; and the informational dimension in ICT, linked to the ability to handle and integrate information in different levels and digital environment formats so that they are transformed into useful knowledge, also mentioning issues of validity and security, as well as the understanding of operating standards that allow autonomous development in this environment.

Livingstone (2011), in turn, taking into account the social, economic, cultural and political expectations that society reserves for the performance of the so-called "internet generation", proposes a literacy for the internet (internet literacy), encompassing three dimensions: literacy as a form of knowledge deployed at different stages, from access to more complex skills of interpretation and evaluation; literacy as a form of knowledge that interconnects individual ability and social practices conditioned by the socio-cultural and economic situation; and literacy as a synthesis of skills regulated socially, encompassing both the norm and transgression.

## DIGITAL LITERACY AS A GLOBAL ISSUE

The LD appears among the 17 Sustainable Development Goals,<sup>14</sup> defined by the UN in 2015, in objective 4 – Inclusive, equitable and quality education –, topic 4.4, which focuses on skills for employment, decent work and entrepreneurship. Also at the international level, the United Nations Educational, Scientific and Cultural Organization defined LD as “the ability to access, manage, understand, integrate, communicate, evaluate and create information in a secure and appropriate way through digital equipment” (UNESCO, 2018, p.6), with a view to participating in economic and social life and grouping literacy skills in ICT, computational, informational and media. UNESCO also developed the European Commission’s Digital Competence Framework for Citizens (DigComp 2.1), which included low- and middle-income countries, as well as LD skills used in key economic sectors such as agriculture, energy, finance and transport reaching a global framework proposal.<sup>15</sup>

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<sup>13</sup> Renowned authors of communication and education were consulted, such as Citelli, Kaplún, Livingstone and Hobbs cited in the text. The survey was carried out between the A1 periodicals of Qualis CAPES in the area of education, with the keywords “literacy” and “digital” (together and separated). The search included 15 journals and located 66 texts, of which, taking as a criterion the subject adherence, 18 were selected for reading and writing.

<sup>14</sup> The Sustainable Development Agenda 2030, comprising the 17 Sustainable Development Goals (SDGs), can be found at <<http://www.agenda2030.org.br/>>.

<sup>15</sup> The breakdown of skills by area is available at <<http://uis.unesco.org/en/blog/global-framework-measure-digital-literacy>>.

**Table 1 – Proposed digital literacy competency areas**

<b>Areas of competence</b>
<b>0. Fundamentals of <i>hardware</i> and <i>software</i></b>
<b>1. Literacy in information and data</b>
<b>2. Communication and Collaboration</b>
<b>3. Digital Content Creation</b>
<b>4. Security</b>
<b>5. Troubleshooting</b>
<b>6. Skills related to careers</b>

**Source:** UNESCO (2018)

Other similar initiatives – such as the Kids Online research (2010-2018), currently in the fourth edition, which includes Brazil, and the Network of Research and Intervention on Literacy and Digital Inclusion (ObLID) in Portugal,<sup>16</sup> conducted by national and international organizations – seek to act politically and socially, recognizing LD as a set of skills needed to move freely and securely in digital environments.

## **DIGITAL NATIVES AND DIGITAL LITERACY?**

Livingstone (2011) questions the common sense, which assumes that a child is naturally skilled to handle screens of digital devices, describing the contact with three children participants in a LD project in the United Kingdom and draws attention to the difficulties and subtleties of their relationship with the internet.

The first is Megan, a member of the upper middle-class family, visited at age 8 and 12, who, despite being considered by parents as an “information junkie”, made inefficient use of very few *sites*, and although he had a fast *on-line* style and competent to get where he wanted, had a narrow perspective, with little room for exploration. The second is Anisah, who was 12 and 15 years old, from a Ghanaian family living in a troubled neighborhood, who, despite being vivacious and confident in using the internet to conduct school research, had deficient skills. The third is Ted, a home-educated 14-year-old from a middle-class white family who, while having more resources (financial, educational and parental) available, made limited use of the Internet as a means of communication and leisure (music), without advancing the skills related to information or education.

Based on these three examples of such diverse young people, for reasons of gender, class, ethnicity and education, but equally challenged to apply their skills and resources to the uses of the internet, we are presented with a difficult balance between freedom, security and privacy, where partial literacy prevails, with an emphasis on technical aspects, with little room for educationally more ambitious practices (Livingstone, 2011).

Next, we propose to broaden the questioning proposed by the author. Seeking not only teachers, but also young people considered as “digital natives”, to think about how educational practices, especially active teaching and learning methods, can contribute to the complex digital context.

<sup>16</sup> Information about projects is available at: <<http://www.lse.ac.uk/media-and-communications/research/research-projects/eu-kids-online/about>> (Kids Online); <<https://cetic.br/pesquisa/kids-online/>> (Kids Online Brazil); and <<http://contemcom.org/>> (ObLID).

## DIGITAL LITERACY AND FORMAL EDUCATION

As highlighted by Citelli (2018), at least from the legal point of view, there is a concern of educators to recognize the place of ICT in school. Resolution No. 3 of the Council of Basic Education (CEB) of June 26, 1998, already provided for languages, codes and its technologies, considering the impact of ICTs on production processes, knowledge development and social life. About 20 years later, the so-called High School reform, sanctioned on February 16, 2017, also includes new technologies in its curricular structure, allowing you to verify the joints between the statements of the resolution of the CEB and the reform of the High School in terms of concerns to the theme of ICTs in educational environments. The author considers, however, that between the legal prescription and the daily life of teaching and learning environments, there are differences between the didactic and pedagogical practices and the demands of technological and communicative citizenship. But there are also in tune, as we will see in the reflections of scholars of the educational field, which reveal multiple challenges and potentialities.

The relationship between social subjects and technological objects was addressed by Silva (2011), who emphasizes the critical use of technologies associated with learning situations that improve LD practices; and by Peixoto (2015), who proposes a sociotechnical approach, marked by a dynamic rationality, with constant re-evaluation of “purposes and means, dispositions and conditions, expectations and answers” (p. 329).

Gutiérrez and Tyner (2012) point to misunderstandings in the international literature on concepts related to LD, warning of the risks of technical interpretations and emphasizing the importance of critical approaches that include the social uses, attitudes and values associated with new media. Following this path, Vivanco (2015) observes how ICTs are converted into a communicative ecosystem that favors new subjectivities and ways of being in the world. Area and Ribeiro (2012) consider the new literacies as individual rights and necessary conditions for social and democratic development and Gomes (2016) characterizes LD as a demand, above all social.

In the context of training and teaching practice, Abreu and Nicolai-da-Costa (2003) report tension and anxiety in the educational use of the Internet, still associated with radical changes that would challenge the traditional role of the teacher. This was the dilemma faced by Freitas (2010) with the proposal of a mediator, open and critical role in the face of technology.

The challenges in teacher education are illustrated by Echalar and Peixoto (2016), who, when investigating the “One Computer per Student Program”, promoted by the state of Goiás, found a teacher training model based on an instrumental rationality, with fragmentation and hierarchy with assumptions. Lagarto and Lopes (2018), in an investigation with teachers of Basic Education (5th to 9th grade) in the city of Viseu (Portugal) noted that, although there are improvements, ICT training is not yet a general rule of training teachers and is often carried out with the support of friends and in specialized centers. In order to offer support tools for technology-mediated strategies, Beluce and Oliveira (2018), based on a study with teachers from the states of Paraná and Mato Grosso do Sul, proposed a Scale of Learning Strategies Used and Observed by Teachers (EAUOP) as a psychometric instrument to contribute to teaching and learning in the digital society. New possibilities also emerge from educational practices. Buzato (2008) observes, from a telecentre study in the periphery of the city of Guarulhos, that the different forms of appropriation of ICTs can enable experiences beyond passivity or responsiveness, discussing the relationship between school and telecenter as agents of digital inclusion. Tuzel and Hobbs (2017) reported the collaboration between teachers and students from the United States and Turkey, who – by sharing interests in films, video games and television programs – realized that their common knowledge was centered on American culture, recognizing the asymmetries of power in global mass culture.

Aiming for ways and gaps, the works of Zuin and Zuin (2017), used the concept of semiformation to propose the remembrance of the historical links of information as a basis for critical thinking; Silva and Azevedo (2018), pointed to the absence of ethnic-racial relations in literacy studies; and Coelho, Costa and Mattar (2018), who proposed a scale between the knowledge of digital “natives” and “immigrants” to discuss the main Brazilian educational policies focused on the digital universe.

To conclude this brief review of the literature, we returned to Citelli (2018), which carried out a basic level survey of 32 schools in the city of São Paulo and nearby municipalities. The results show that 95% of the teachers perceive complementarity between didactic-pedagogical discourses and the non-school languages conveyed by the media, especially the internet. On the other hand, 72.3% stated that they did not have information on official teacher training programs for ICTs, feeling insecure to incorporate the subject into the political-pedagogical projects of the courses. A framework that gives rise to the debate on the redefinition of formal education, challenged by context in which social places and ways of seeing and perceiving the world are redefined in an accelerated way, with great use of the communication devices (Citelli, 2018).

## **DIGITAL LITERACY AND ACTIVE METHODS OF TEACHING AND LEARNING**

As already mentioned, ICTs greatly interfere with the way we live, and particularly about how we learn. Despite the apologetic tone of some proposals, there is a certain consensus that ICT-fluent individuals are better able to promote and adapt to changes in academic, professional and daily life (Rosa & Dias, 2012, p. 44). The LD thus becomes fundamental requirement for so-called active methods, whose success depends on the engagement of students recognized as protagonists of the learning process.

However, few institutions of higher education (IES) know the LD stage of their student and teacher, although this diagnosis is considered important to define goals, actions and timeline to contribute to the digital fluency demanded by contemporary forms of learning. To provide evidence on the situation, we have gathered below some results of a pilot study conducted at an IES with undergraduate students in Administration at its campuses in São Paulo and Porto Alegre. Using a questionnaire inspired by the International Computer and Information Literacy Study (ICILS), developed by UNESCO (2018b), the study had as assumptions that the participating students can be considered as “digital natives” and both students and teachers do not face relative difficulties to digital inclusion, but may have significant variations in the ability to use ICTs, particularly when applied to the educational environment (teaching and learning).

The main results indicated that teachers consider themselves to be positioned at high levels of digital proficiency, although the use of ICTs for pedagogical purposes is modest in some types of activities. Moreover, the perception of the pedagogical use of ICT among teachers is ambiguous, because although 88% consider priority use, 40% disagree with the statement that ICT favors written expression and 39% do not think that the ICTs favor the critical and analytical exercise among the students.

The students, in turn, are intense users of social media and have average levels of proficiency in other ICTs. Among them, 82% say they know how to select reliable information on the Internet and 80% say they know how to store, edit and share files in the cloud. On the other hand, 20% say they do not know how to use ICT in the planning and/or problem solving stages. In addition, when asked about spreadsheets (Excel), 68% rated themselves as knowledgeable, but 43% felt little or not able to meet the demands of using such worksheets in the workplace. However, expectations about the potential of ICTs remain high among students:

75% believe that learning to use applications will help to do the work that engenders interest; 75% would like to deepen in the study of topics related to ICTs; and 59% have expectations of working with advanced ICTs.

## POSSIBLE WAYS

Active methodologies are not new, since reflections on the need to explore new ways of teaching and learning are present in the writings of Immanuel Kant (1724-1804) and Johann Gottlieb Fichte (1762-1814). More recently (1918), Argentinian university students opposed what they called a pedagogical anachronism of the “master class”, claiming an “active methodology” in the Manifesto of Cordoba. But why was this revolution in educational settings restricted to alternative projects? With the Industrial Revolution, the universalization of access to formal education gained urgency and became law; after all, significant changes in the work required skills that had hitherto been unknown, but with a chance to influence the rationalization of work oriented by reducing the time spent and the cost involved. To reach an increasing number of students, with relatively modest investments, education was heavily standardized and regulated, reproducing the culture of factory work.

With the decline of the professions and the appreciation of the concept of occupation, the reduction in employment despite the increase in multi-role, strengthening the sharing economy, job insecurity and the deterioration of wages, the skills required of young people undergo significant change. In a society of entrepreneurs, the golden rule is to learn earlier, all the time, and anywhere. In this context, in theory, convergence of ICT with active methods of teaching and learning can contribute to balance the growing number of students and individualization of the teaching and learning process.

However, this is a great challenge for the protagonists of the educational field. As we have seen from the review of literature, there is a mismatch between the recognition of the influence of the media and the internet in the life and training of students, associated with a great expectation around the potential of technology; and the presence of partial literatures, marked by the emphasis on technical aspects and with little consistency in the advanced uses of technologies, by both teachers and students.

In this context, we align ourselves with the authors who are committed to the critical formation, attentive to the social roles of new technologies, as the only way to move toward a virtuous dialogue between Education, Communication, the media and the internet.

Realization of dialogue can occur through some of the paths listed here, such as the performance of diagnostic research on digital literacy in school settings, the investment in the digital literacy of teachers and the use of active methodologies as a way of articulating complementary knowledge of students and teachers. Towards education as a dialogic space, accentuating the “C” of ICT, as tools for communication, is in contrast to the emphasis given to the “I” of information (Kaplún, 2011).

For further reflection, we suggest a possible approach with the Morenian concepts of spontaneity and creativity. For Moreno (quoted in Gonçalves, 1988, p. 47), “being spontaneous means being present in situations, shaped by affective and social reactions, trying to transform their unsatisfactory aspects”, being the creativity inseparable from spontaneity, because this is the factor that allows the manifestation and the actualization of creative potential. We believe that the power of these concepts, with the aim of generating renewing or transformative answers, can certainly inspire new reflections and actions in the field of literacy and active teaching and learning methodologies.

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