



Beyond the myth of the “digital native”

Adolescents, collaborative cultures and transmedia skills

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Abstract

This article presents part of the results of an international research project that aims to map teenagers' (12–18 years old) transmedia skills. Within a theoretical framework grounded in the concepts of “transmedia literacy” and “transmedia skills”, the research team carried out international fieldwork based on short-term ethnography, an appropriate data-collection methodology that allowed us to answer the central question: What are young people doing with media? We identified more than 200 main and specific skills that were used to make a map of adolescents' transmedia skills, which is included in this article. The research also revealed that young people's skills have certain highs and lows, giving rise to a “topography” that includes teenagers with advanced media skills – for example, skills related to technological, aesthetic and ideological uses of content – and also those with less developed skills. The research reveals a very complex panorama that belies both the mythology of the “digital native” and that of the “*digital dummy*”, and invites us to go deeper in future research.

Keywords

Media literacy, transmedia literacy, transmedia skills, adolescents, short-term ethnography

Introduction

The explosion of personal computing and the subsequent digitization of all kinds of processes since the 1980s, coupled with the emergence of the World Wide Web in the early part of the following decade, has generated a profound transformation of industrial society. The more recent diffusion of social networks and mobile communication has radically changed not only the way in which subjects relate to one another, but also all kinds of social, educational, cultural, economic and political processes. From its very beginnings in the late 1960s, young people have been active protagonists of this process. According to Castells:

Although the young “ARPANETers” were not part of the counterculture, their ideas and software served to build a natural bridge between the world of great academic science and the broader student culture that emerged from the BBS and Usenet News networks (Castells, 2001, p. 39).

Other young people developed new companies – Steve Jobs founded Apple at 21 years of age, Bill Gates did the same with Microsoft at 20, and Google was founded in 1998 by two young men born in 1973: Larry Page and Sergey Brin – or they became *early adopters* of digital technologies. In this context, it should not be surprising that in 1996 the *Declaration of Cyberspace Independence* was addressed to the “governments of the industrial world” and stated, “You are terrified of your own children, since they are natives in a world where you will always be immigrants” (Barlow, 1996). Five years later, Prensky would popularize the concept of “digital native”.

Today's students – K through college – represent the first generations to grow up with this new technology. They have spent their entire lives surrounded by and using computers, videogames, digital music players, video cams, cell phones, and all the other toys and tools of the digital age (...) What should we call these “new” students of today? Some refer to them as the N-[for Net]-gen or D-[for digital]-gen. But the most useful designation I have found for them is Digital Natives. Our students today are all “native speakers” of the digital language of computers, videogames and the Internet (Prensky, 2001, p. 1-2).

Although it was initially received with great enthusiasm, critics of the “digital native” definition soon appeared (see a summary of the debate in Jenkins, 2007, and Helsper & Eynon, 2010). Although the most outstanding studies carried out in recent years (for example boyd, 2014; Ito, M. et al., 2009, 2010; Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006; Jenkins, Ito and boyd, 2016; Livingstone, Bober, & Helsper, 2005; Livingstone & Haddon, 2009; Livingstone & Sefton-Green, 2016) confirm the techno-social changes expressed in the new generations, they all highlight that this territory is extremely complex and varied, as it is possible to find all kinds of situations, profiles and experiences of digital technology use. In the Ibero-American area, numerous studies have contributed to dismantling the idea that young people “come with a built-in chip”. This expression, which Rueda Ortiz and Quintana Ramírez (2004) picked up from a Colombian high school teacher, expresses three fundamental ideas: 1) a feeling of uneasiness and impotence in teachers faced with the new generation; 2) a way of perceiving and thinking about technologies based on a human-machine fusion; and 3) a “strange and transgressive mixture that generates fiction and that places us at a limit where we do not know how real or imaginary an image is” (2004: 18). The only way to push past these mythologies is to dive into this territory and explore the transmedia practices of young people. In this context, the main research questions behind the article are: What are teens doing with new interactive media and collaborative platforms? What skills are they developing in these environments?

The article presents a part of the results of an international research project carried out in eight countries. Among the objectives of this study was to identify the transmedia skills of adolescents aged between 12 and 18 (see section 2). Unlike other sociological research interested in determining how much young people know about digital technology (*digital skills*) or the Internet (*Internet skills*) – for example, Livingstone & Haddon (2009) – the present study approaches this reality from an ethnographic perspective with the aim of mapping these skills independently of their unequal distribution within the youth population. In other words, this research does not aim to determine the average level of the new generation's media and technological skills, but rather to create a detailed “map” of transmedia skills so that, in a second phase, they can be used within the classroom through a specific series of educational activities. The map of transmedia skills presented in this article is one of the most comprehensive to date as it covers more than 200 skills identified in young people from Australia, Colombia, Spain, Finland, Italy, Portugal, the United Kingdom and Uruguay. We also propose a taxonomy of these skills based on productive, organizational, aesthetic-narrative, technological, ethical-ideological and preventive criteria.

Theoretical framework

This research is based on a number of concepts and approaches developed from *media literacy*. To place the work carried out in a clear context, it is necessary to outline the two theoretical-conceptual progressions indicated below.

From media literacy to transmedia literacy

The traditional media literacy approaches developed since the 1960s (Rosenbaum, Beentjes & Konig, 2008; Potter, 2004, 2005, 2010) are based on a premise: the media, especially television, have negative effects on children, and therefore it is necessary to “immunize” young people in schools so they are able to resist the negative influence of screens. Over the years, media literacy began to introduce productive practices in the classroom, for example the creation of newspapers or school radio stations, to teach young people how mass media work. As the media ecosystem evolved, so did *media literacy*, which soon incorporated training and prevention in relation to using the web, video games, social networks and mobile devices. In recent years, dozens of concepts have been developed to give a name to these new forms of literacy (see Table 1).

Table 1 The “new literacies”

21st Century Literacy	21st Century Literacy is ‘a set of abilities and skills where aural, visual and digital literacy overlap. These include the ability to understand the power of images and sounds, to recognize and use that power, to manipulate and transform digital media, to distribute them pervasively, and to easily adapt them to new forms’ (The New Media Consortium 2005, 2).
Computer literacy	Computer literacy is technology-centred and spans from the accreditation of the practical information technology skills necessary for work and indeed daily life to the development of skills to use technology. For many scholars ‘computer literacy’ is a synonym for ‘IT literacy’ and ‘electronic literacy’ (Bawden 2001).
Digital literacy	The concept of ‘digital literacy’ refers to the ability to read and understand hypertextual and multimedia texts (Gilster 1997; Bawden 2001). According to Buckingham and MacFarlane (2001, 10) digital literacy is more than simply a matter of protecting children from the dangers of digital media: it must involve creative production in new media as well as critical consumption.
Hyperliteracy	This concept has been used to denote a form of knowledge gathering made possible by the existence of large volumes of contents in hypertext form (Bawden 2001).
Internet literacy	‘Internet literacy’ proposes increasing the skills for using the Internet in a safe, competent and responsible way. For Livingstone, Bober, and Helsper (1995) Internet literacy is required to access both hardware and software and online contents and services, and to regulate the conditions of access.
Metaliteracy	Metaliteracy (Mackey and Jacobson 2011) includes social media, online communities, and open learning as central concerns, and promotes the creative production and sharing of information through collaborative social media. According to Jacobson and Mackey, the new information literacy standards must be expanded to include ‘the collaborative production and sharing of new knowledge in participatory environments’ (2013, 91).
Multiliteracy	Textual and cultural phenomena like multimodality, hybridity and intertextuality are included within multiliteracy. For Livingstone (2008), Internet literacy requires both media and information literacy. Other scholars consider that there is no single literacy but rather a series of literacies, each of which is derived from a specific medium. In this context, cinema literacy, television literacy and game literacy can be seen as subsets of media literacy (Burn and Durran 2007; Potter 2004).
Multimodal literacy	Multimodal literacy focuses on the meaning-making process that occurs in the process of reading, viewing, understanding, responding to, producing and interacting with multimedia and digital texts. Introduced by Jewitt and Kress (2003), it includes oral and gestural modes of talking, listening and dramatizing as well as writing, designing and producing such texts (Walsh 2010).
New media literacy	According to Gee, in new media literacies ‘the emphasis is not just on how people respond to media messages, but also on how they engage proactively in a media world where production, participation, social group formation, and high levels of nonprofessional expertise are prevalent’ (Gee 2010, 36).
Transliteracy	Transliteracy is the ability ‘to embrace the full layout of multimedia which encompasses skills like reading, writing and calculating with all the available tools (from paper to image, from book to wiki)’ (Frau-Meigs 2012, 15-16).

Faced with this panorama overflowing with definitions, is a new concept really necessary? The answer is yes, provided that this new concept illuminates other aspects or addresses the relationship between subjects-media-education from another perspective. In this context, *transmedia literacy* starts from a different reading of the media reality of young people that does not reject the postulates of *media literacy* but rather repositions them and complements them with other research questions and intervention proposals (Scolari, 2018). If media literacy was interested in what the media are doing to young people, transmedia literacy turns this question around and asks what young people are doing with the media. Instead of considering young people as consumers taken over by the screens (television or interactive screens, large or small), they are considered ‘prosumers’ able to generate and share media content of different types and levels of complexity. Transmedia literacy differs both from media literacy and traditional literacy on several different levels (see Table 2).

Table 2 Literacy, media literacy and transmedia literacy (Scolari, 2018)

	Literacy Alfabetismo	Media Literacy Alfabetismo mediático	Transmedia Literacy Alfabetismo transmedia
Media semiotics (language)	Verbal text (read/write)	Multimodal (audiovisual media)	Multimodal (interactive media and transmedia)
Media supports	Books and printed texts	Broadcasting	Digital networks
Aim of the action	To develop critical readers and writers	To develop critical viewers and, sometimes, critical producers	To develop critical prosumers
Subject interpellation	As an illiterate	As a passive spectator	As a prosumer
Direction of the action	Top-down	Top-down	Bottom-up
Learning environment	Formal (schools)	Formal (schools)	Informal (outside schools)
The teacher’s role	Knowledge authority – Mediator student/text	Knowledge authority – Inoculator of critical antibodies	Knowledge facilitator – Cultural translator
Theoretical frameworks	Linguistics	Media Studies (Theory of media effects)	Cultural Studies/ Media Ecology

In this context, transmedia literacy is understood as a “set of skills, practices, values, sensitivities and learning and exchange strategies developed and applied in the context of the new collaborative culture” (Scolari, 2018). If traditional literacy focused on the written text – it was about teaching reading and writing – and media literacy on the resistance to the television discourse, transmedia literacy places the new digital and interactive experiences in the foreground in terms of the analytical proposal and action. Transmedia literacy does not deny the need to train young people in schools to develop their media skills, but rather it expands this framework to include research into the media activities that young people do outside educational institutions, and bring this knowledge into the classroom.

From digital skills to transmedia skills

The new forms of digital, interactive and networked communication demand a set of skills that are very different from those needed to move within a media ecology with broadcasting at its centre. What name should we give these new skills? In the last decade, an infinity of concepts has been applied, from “electronic skills” or “e-skills” (Eurostat, 2009) to “digital skills” (Holloway & Valentine, 2001, 2003; Ito et al., 2009, 2010; Radovanovic, 2011; Tripp, 2011; Litt, 2013) or “Internet skills” (Warschauer, 2003). What skills do these concepts cover? They include activities from surfing the net to finding information or downloading files (Hargittai, 2002; Potosky, 2007). With the growth of the Internet, researchers have pro-

posed other skills, such as the ability to determine the credibility of other users, communicate with them and manage a personal digital profile (Papacharissi, 2010), understand and negotiate social norms (Haythornthwaite, 2007; Knobel & Lankshear 2008), create and consume content (van Dijk, 2005; van Deursen & van Dijk, 2010), and participate in cultural industries and collaborative cultures (Jenkins, 2006; Manovich 2009).

In the present research, transmedia skills are understood as a series of skills related to the production, management and consumption of digital interactive media. Regarding the range of transmedia skills, many of the skills integrated under this category have already been included in previous literature about electronic skills, e-skills, digital skills, Internet skills, and so on. However, other transmedia skills are not directly linked to technological issues, for example cosplaying or creating narratives (see section 4).

Previous research in this field (e.g. Jenkins et al., 2006) has identified skills that include playing (the ability to experiment with the environment as a form of problem solving), performing (the ability to adopt alternative identities to improvise and discover), appropriating (the ability to sample and mix multimedia content), judging (the ability to assess the reliability and credibility of different information sources), transmedia navigating (the ability to follow the flow of stories and information across multiple modalities), networking (the ability to make searches in order to synthesize and spread information), and negotiating (the ability to travel across diverse communities, discerning and respecting multiple perspectives, and capturing and following alternative norms). The objective of this research is to go beyond these studies to increase the list of skills and classify them to create a map of transmedia skills.

Methodology

The objectives and scope of the research were to elaborate a map of the transmedia skills detected in young people aged 12 to 18 from eight different countries. For this, the research team developed a specific methodological design that is explained below. In the original project, it was decided to work with nine countries, three located in the top third of the PISA list (Australia, the United Kingdom and Finland), three in the central third (Spain, Italy and Portugal), and three in the lower third (Colombia, Mexico and Uruguay). Due to local administrative problems, Mexico did not participate in the research, but in a successive phase it was replaced by Ecuador. In each country, between two and four secondary education institutions were identified (depending on the structure of each education system), characterized by socially, educationally and technologically opposing contexts, such as public/private, urban/rural, homogeneous/heterogeneous, high technology/ low technology schools, and so on.

We chose to apply the methodology known as *short-term ethnography*. This way of working is based on an intensive exploration of the subjects' lives that uses "more interventionist and observational methods to create contexts in which to delve into questions that reveal what matters to these people in the context of what the researcher is trying to discover" (Pink & Morgan, 2013: 352). Other forms of long-term ethnographic intervention – such as that applied by Livingstone & Sefton-Green (2016) in a single school in the United Kingdom for a year – would have been almost impossible to apply in a study carried out in parallel in so many countries. In other words, we favoured the rapid collection of data that was advantageous to the great geographical extension being researched here.

Data were collected in several phases: once the groups were identified and the consent forms signed (of the minors, the schools and the parents), students filled out an initial questionnaire so we could establish their sociocultural background and their media uses, consumptions and perceptions. Next, we ran two participatory workshops in parallel to explore

the adolescents' narrative creation and videoludic practices. These workshops allowed us to identify the most active adolescents in the fields of interest (social networks, videogames, content production, etc.). These young people were then interviewed individually and in depth, and they were asked to complete a media diary to give further insight into their activities in media environments (Figure 1). The last phase of the data collection process was an online observation of teenagers' favourite websites, celebrities and online communities (netgraphy). 1,633 questionnaires were filled out, 58 workshops and 311 interviews were held, and 8 online communities and platforms were analysed during the fieldwork.

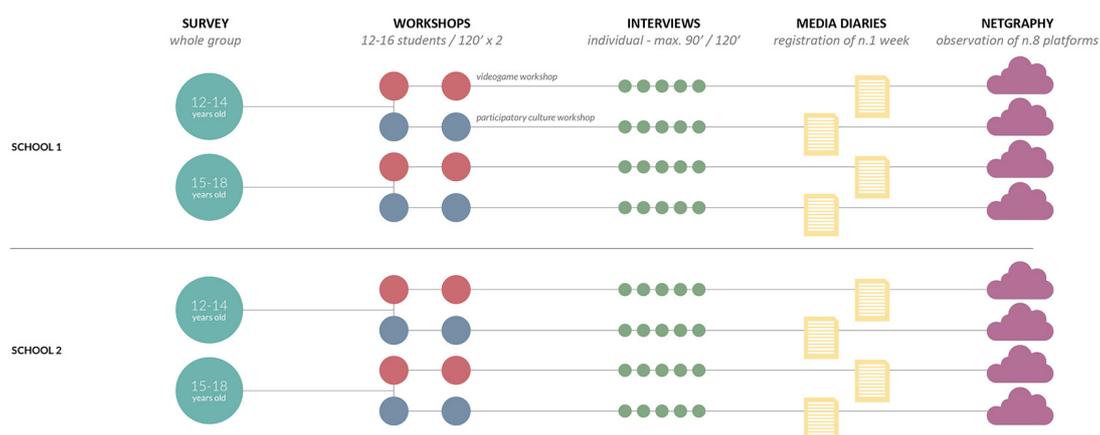


Figure 1 The methodology

We used NVivo 11 Pro for Teams to analyse the data. This is a software for qualitative analysis, and is very useful for organizing, storing and retrieving data from different sources (written, graphic, audio-visual, etc.). This software facilitated the development of descriptive and analytical hierarchies, through its system of nodes that “represent themes, concepts, ideas, opinions or experiences” (QSR International, 2016: 24). Moreover, NVivo makes it possible to combine different types of multimedia materials into observation units (cases), and create analytical matrices by combining and merging previous nodes.

Results

We revised and compared various taxonomies in order to construct the map of transmedia skills, from the traditional classification by Bloom (Bloom, Englehart, Furst, Hill, & Krathwohl, 1956) to the revision of Anderson and Krathwohl (2001). We also considered contributions by Ferrés and Piscitelli (2012) and the aforementioned list of skills developed by Jenkins et al. (2006) to create the map.

The transmedia skills were organized into 9 dimensions, which included 44 main skills each and, at a second level, 190 specific skills. Depending on the dimension, the taxonomy was organized around texts, themes, technologies or processes. Whenever possible, skills were organized following a progression from writing (writing stories) to multimodal productions (filming and editing a video), from simplicity (searching for content) to complexity (managing social networks and blogs to archive contents), from basic techniques (taking photos) to critical and ethical practices (being aware of the risks of self-exposure on social networks), and from cognition (recognizing and describing genres in different media and platforms) to action (selecting or ceasing to consume content based on aesthetic and narrative values). As it is not possible to mention all the skills, Table 3 includes just the main skills, a brief description of each, and a couple of examples of specific skills.

Table 3 Transmedia skills ¹

Production skills		
Description	Main skills	Specific skills
Set of skills including the ability to conceive, plan, produce, edit and/or re-appropriate contents through different media platforms and languages (texts, audio, audiovisual, code, etc.). It involves both operational and creative skills.	<ul style="list-style-type: none"> • Create and modify: written, photographic, audio, and audiovisual productions; drawings, and designs; video games. • Use: writing software and apps; audio recording and editing tools; drawing and design tools; photographic and editing tools; filming and editing tools, tools for video game creation and modification. • Code, build and modify software and hardware. • Use coding and ICT tools. • Create cosplay and costumes. 	<ul style="list-style-type: none"> • Produce written texts • Review written texts • Use word processors • Use blog platforms, presentation tools, and other writing platforms and apps • Produce a radio show or a podcast • Edit photos • Film • Create a website • Change a DVD region. • etc.
Self-management skills		
Description	Main skills	Specific skills
Set of skills related to the subject's ability to self-manage resources and time, as well as their own identity, feelings and emotions.	<ul style="list-style-type: none"> • Self-manage • Manage their own personal identity • Manage their personal feelings and emotions 	<ul style="list-style-type: none"> • Manage time • Express one's personality through the production of media stories and interface customization • Be resilient and adaptable • etc.
Social management skills		
Description	Main skills	Specific skills
Set of skills referring to the ability to communicate, coordinate, organize, lead and teach while gaming and producing collectively. This set of skills also includes skills related to participating in social media.	<ul style="list-style-type: none"> • Participate in social media • Collaborate • Coordinate and lead • Teach 	<ul style="list-style-type: none"> • Comment • Share • Coordinate and lead a group of people when creating contents • Engage in fan communities of (transmedia) narrative worlds • Identify patterns in social media users' actions and motivations • Teach how to play • etc.
Content management skills		
Description	Main skills	Specific skills
The set of skills referring to the ability to manage different media contents through a range of platforms and media: to select, download, organize and disseminate.	<ul style="list-style-type: none"> • Search, select, and download • Manage content archives • Manage content dissemination and sharing 	<ul style="list-style-type: none"> • Know where to search for contents or products of interest • Manage social media and blogs to archive content • Manage different social media accounts • etc.
Performance skills		
Description	Main skills	Specific skills
This dimension includes all kinds of ways of performing media activities with the body, be it in real life scenarios (performing arts) or virtual scenarios (video games). In the specific case of videogames, this set of skills refers to those activities carried out in-game and individually.	<ul style="list-style-type: none"> • Play video games (note: in-game individual skills) • Break the rules • Act 	<ul style="list-style-type: none"> • Know video game rules and playing strategies • Know the different game modes • Know how to combine characters to progress in a game • Outline strategies to win games • Act in a theatre play • etc.

Media and technology skills		
Description	Main skills	Specific skills
This dimension includes all the skills related to having knowledge about socio-political media economies, personal media diet, and technological features and languages. This set of skills also includes skills related to taking action in relation to this knowledge.	<ul style="list-style-type: none"> Recognize and describe Compare Evaluate and reflect Take actions and apply them 	<ul style="list-style-type: none"> Recognize and describe the technical features of social media Evaluate and reflect on the qualities or characteristics of software, hardware, and apps Highlight the technical differences and similarities of video games and consoles etc.
Narrative and aesthetic skills		
Description	Main skills	Specific skills
This dimension includes skills related to interpreting the storytelling, narrative structures, and to delving into the narrative construction through the analysis and evaluation of the genres, characters, aesthetic features, etc. This set of skills also includes the ability to reconstruct the transmedia narrative world.	<ul style="list-style-type: none"> Interpret Recognize and describe Compare Evaluate and reflect Take actions and apply them 	<ul style="list-style-type: none"> Reconstruct transmedia narrative worlds Highlight the differences and similarities among genres in any media Evaluate and reflect on video game design and contents etc.
Ideological and ethical skills		
Description	Main skills	Specific skills
These skills refer to detecting and analysing media representations of stereotypes (in terms of gender, race, culture, religion, etc.) and ethical issues related to copyright, cheating (mainly in video games) and hacking. It focuses particularly on how teens discuss stereotypes, gender issues, and intercultural issues, among others. This set of skills also includes the behavioural sphere through the actions taken in response to these ideological and ethical topics.	<ul style="list-style-type: none"> Recognize and describe Evaluate and reflect Take actions and apply them 	<ul style="list-style-type: none"> Recognize and describe the legal implications of media content production and diffusion Evaluate and reflect on their own media diet and choices Avoid illegal and unethical practices etc.
Risk prevention skills		
Description	Main skills	Specific skills
This dimension includes the skills related to having knowledge, and to taking measures in relation to privacy and security in media (in particular social media). This set of skills also includes skills about managing and reflecting on personal identity, and possible addictions to media.	<ul style="list-style-type: none"> Recognize and describe Evaluate and reflect Take actions and apply them 	<ul style="list-style-type: none"> Recognize and describe possible addictions to media products Evaluate and reflect on the risks of constructing a personal digital identity Identify and neutralize a hack etc.

This map of transmedia skills emerges from the data collection and analysis work carried out during the research process. Obviously, the map does not imply that *all* young people have *all* these skills; on the contrary, the present study confirms that we are faced with a very varied “topography” where adolescents who excel in some of these competences coexist in the same environment with others who make a simple mass-media use of interactive media and collaborative platforms. Moreover, at an individual level, a young person who demon-

1. The full list of transmedia skills can be viewed and downloaded here: <https://transmedialiteracy.org/>

strates that they have advanced photographic production skills (creation of memes) or audiovisual management skills (a YouTube channel) can, at the same time, have less developed abilities in, for example, detecting stereotypes or managing privacy.

Conclusions

The transmedia skills revealed by the research cover a wide spectrum of media and platforms in which adolescents and quite a few adults “live”. In certain cases, some skills are very marginal and are only found in a few teenagers (for example, skills related to ideology and values); in other cases, skills are more common (for example, skills linked to production). Any (trans)media literacy action should exploit the skills that young people have developed outside school (for example, production skills), within the classroom, and, at the same time, reinforce the skills that are developed less in informal areas of learning (for example, skills related to ideology and values). There are other aspects that emerged from the research that cannot be addressed in this article for reasons of space, such as those linked to gender bias (the video game world has a strong masculine imprint, while fan fiction production tends to be feminine) (Masanet, 2016), and the evolution of transmedia skills within the media ecology.

To summarize the main findings of this part of the study – the research included other objectives like the identification and analysis of teen’s informal learning strategies – it could be said that even if teens may dominate different transmedia skills, their distribution is not regular. This unbalanced distribution of transmedia skills should be considered before implementing any kind of (trans)media literacy action. But not only the topographical distribution of transmedia skills is varied: as some of the transmedia skills change very little over time (e.g. those related to values), other skills are subject to incessant technological change (e.g. those related to social media and technological devices). Also the temporal dimension should be taken into account in further researches and actions.

The present research confirmed once again that the concept of “digital native”, understood as a young person who “comes with a built-in chip” and who moves skilfully within digital networked environments, shows more problems than advantages. In this context, studies such as the one presented here make it possible to better understand the media world of adolescents, and also to establish a knowledge base from which to improve (trans)media literacy actions in the classroom, founded in the skills that some teenagers *already* have.

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