

MIL Competences: from theory to practice. Measuring citizens' competences on Media and Information Literacy¹

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This article presents the analysis and classification of different studies carried out to measure the media literacy skills of citizens. The text is presented in three parts. The first part presents the main theoretical categories of the analysis that define the concept of media literacy and the major frameworks designed for the study of media competences. In the second part, the article examines a group of studies that propose different frameworks that assess media literacy competences. The analyzed studies are classified according to their assessment trends and methodology. Finally, the text identifies media competences that receive higher attention in the studies and the main gaps according to the perspectives pointed out in the explored frameworks. This article concludes that there are aspects lacking in the studied frameworks concerning specific media competences proposed by international institutions (such as UNESCO or the European Commission) and experts. There is also an absence of specific and practical criteria that measure different citizens' skills. The studies analyzed principally focus on the personal skills of individuals (especially their ability to use ICT), from which broad reviews of the social competences of individual and environmental factors that determine the promotion and development of media literacy has been carried out.

1. Media and Information Literacy as a holistic concept

Media and Information Literacy (MIL) is a theoretical proposal derived from studies done by many bodies but the biggest contributor has been UNESCO who started the work in the 1970's.

MIL regroups in its definition concepts that have historically been understood as different or in a conceptual conflict (Media Literacy, Information Literacy, Digital Literacy and other acceptations that could be grouped in any of these three approaches). UNESCO develops a unifying proposal, a holistic approach to a discipline that has proven to be as important as any other content or field of study in every stage of education (school, university, lifelong learning).

a. UNESCO's Vision

Establishing a holistic approach still has its problems. Joining the different theoretical contributions in order to create a practical and theoretical framework has not been an easy task. One of the largest efforts made by UNESCO is the MIL curriculum for teachers (2011a). In this document, the introduction of MIL in schools is planned by establishing a

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set of activities and resources specially elaborated to help teachers understanding the concept and the importance of its application. This collaboration framework is developed by setting e-resources and by planning an open source platform where educators can find exercises, add their experiences and freely use the materials available on different sites. The MIL curriculum is at this point the most important reference to the ongoing research projects, both inside and outside UNESCO.

According to UNESCO, MIL should be understood as a series of essential competences established in order to foster a critical response towards the information that is being consumed as well as towards the media and any other information provider, while developing the component of critical understanding and lifelong learning. MIL works for a more active citizenship and a better-trained society (UNESCO, 2011a: 185-186).

As discussed, MIL is shaped by three essential literacies. Media Literacy (ML) refers to the comprehension and use of the mass media. It includes elements such as: consumption of media products in a safe way; critical comprehension of media contents, fostering informed and responsible decision-taking abilities and awareness regarding the techniques used to generate media contents and products. ML seeks to educate citizens to be capable of noticing the possible harmful effects of media and their products as well as the opportunities they create. ML has always been understood as having a broad definition and has also been widely used in the field of media studies (it gathers up concepts of other definitions); almost as much as MIL.

Information Literacy (IL) is related to a more specific task, described as the ability to recognize, identify and effectively locate the information needed. It also includes components of evaluation and efficient use, as well as the capacity to communicate it in different formats (Pérez Tornero, 2004). On the other hand, Digital Literacy (DL) refers to the ability to employ digital technologies, communication tools or online (and offline) servers in order to retrieve, access and generate information. DL also refers to the ability to understand and use the information in multiple digital formats utilizing different digital resources. DL is the ability to accomplish different tasks in a digital environment (Pérez Tornero et al., 2010).

b. Beyond the UNESCO

Different authors have started working on the MIL concept. Carolyn Wilson (2012) asserts that MIL makes reference to both the process of understanding and using the media (ML and IL) and the ICTs in general (DL). What MIL does is it sets a series of competences aiming to create capacities regarding the components of critical comprehension, informed decision making/taking and the understanding of the media and the ICTs in general.

Wilson establishes that MIL pays special attention to the introduction of technological components into the whole educational system which is intended to foster and create knowledge about the different topics surrounding the media corporations. MIL is supposed to generate abilities in decoding different languages (visual, textual) as well as in decomposing meanings and understandings offered in media products. Another key issue highlighted by MIL has to do with the treatment of data and media resources. To Wilson, this discipline encourages an ethical use of all information or data retrieved. In addition, as MIL stimulates the consumption of information, its valuation and the identification of possible bias in the way media agents present it, it is appreciated as a tool to empower people and promote more active and transparent democracies (Carlsson et al., 2008; Giraldo, 2010; Culver & Jacobson, 2012).

Buckingham (2010) works on the concept of protection and the development of tools for a safer and more empowering use of ICT equipment and components. The studies conclude that MIL should concentrate on identifying possible risks and threats and, at the same time, on teaching how to make the most of the digital devices and the Information Society they are part of. Buckingham identifies that by reflecting on the different concepts introduced by MIL, both the teachers and the pupils can gain tools and knowledge that could help them use the different media in a safer and more productive way.

Wilson (2012: 18) also states that the component of protection is strictly related to an ethical use of information and media products. As McLuhan deciphered years before, these risks are related to the fact that it belongs to an interconnected world (global village), where borders and barriers are not well established. This scenario generates new risks and sets new challenges that the national governments, families, teachers and any other related actor should pay attention to. These challenges highlight the importance of the mission of institutions such as UNESCO and the efforts made by the European Commission and

the universities and observatories that are involved. The efforts have resulted in the establishment of different frameworks that define and try to assess the MIL concepts and elements, as well as in the establishment of observation variables and theoretical frameworks regarding its implementation.

Del Moral and Villalustre (2013) work on the concept of MIL under three principal criterions. They believe that, MIL should pay attention to the elements of effects, use and participation. When talking about the effects of media products, these authors emphasize that MIL is a defense mechanism (tool) against the influence and persuasion that different media products have over citizens when they passively consume them. The second element refers to the different uses, but not only the technical ones. What MIL should generate is the ability to understand and learn in an autonomous way (the so-called “learn to learn”) the new uses and the new applications that everyday developments bring to the media sphere. This element also refers to the capacity of evaluating the products individuals are consuming and the media agents who are producing them. Participation, by itself, could be considered the main objective of MIL as it summarizes the key elements of citizens’ empowerment, development of a more critical and active citizenship and the strengthening of democracy and public debate.

c. The multiple literacies

Area and Pessoa (2012), according to the understanding of ML in the sense proposed by Pérez-Tornero (2004) and the European Commission (2010), proposed the concept of ‘multiple literacies’ (or new literacies). For these authors, the semantic spectrum has been nourished by the technical and technological developments. The confrontation between meanings and the distinct concepts forming the different literacies can be understood as a constellation of elements that should be taken into account on the different training stages -similarly stated by UNESCO (2008). Area and Pessoa describe their theory relying on Bauman’s proposal on solid and liquid cultural products.

These authors highlight the need of understanding ML as something bigger than what has been done in research to this date. They propose that to understand the concept of multiple literacies, which occurs as a consequence of the development of digital tools and equipment, there is a change in the way which education agents face learning and training processes. The cultural goods citizens are consuming respond to a

different logic that is defined by the component of continuous and fast change that ICTs impose. Social and cultural changes are now seen as liquid (variable, not always defined) and the production of media and cultural goods is spreading to almost every scenario, contrary to the nature observed in the 19th and 20th centuries. These conditions articulate the necessity of aiming citizens with a set of abilities, skills and capacities that go far beyond the digital and informational tools. Multiple literacies are a series of useful knowledge (abilities, skills and competences) that should prepare citizens to face a fast-moving cultural and technological industry.

2. GENERAL FRAMEWORKS ON MIL COMPETENCES

a. Information Literacy framework

Different approaches have been reviewed in order to give a global view of the principal conceptual guidelines developed in the last years. The Association of College and Research Libraries (ACRL), as a division of the American Library Association (ALA), proposes a framework for understanding IL in which the concept is considered as fundamental for lifelong learning (ACRL, 2000: 4). With regards to IL inclusion in society and especially within the curriculum, the ACRL mentions three determining factors: teachers and university faculties, libraries and government (table 1).

Faculties	Provide inspiration and guidance for students to learn to manage and use the information they need.
Academic Librarians	Select, organize and keep resources and access points to information, and provide instructions on how to manage it.
Administrators	Provide resources and planning initiatives that bring together teachers, librarians and related IL professionals, dealing with financing and maintenance.
Source: Own elaboration from ACRL (2000)	

ACRL’s framework is constructed around five elements that identify the skills’ requirements for an individual to be considered literate in relation to the information received:

1. Determine the extent of information needed.
2. Accessing information in an effective and efficient way.

3. Evaluate the information and resources critically and incorporate them into a knowledge base.
4. Use information for a specific purpose.
5. Understand the legal, economic and social context surrounding information in order to be able to use it in an ethical and legal way.

The ACRL also highlights that the acquisition of technological skills is a prerequisite to develop the required competences of information literacy, and to acquire a critical and rational capacity in the use of information (2000: 5).

b. Media Literacy framework

Frameworks for understanding media literacy (ML) has been proposed by two studies: The first being, the *National Assessment Programme*, developed by the Australian Curriculum, Assessment and Reporting Authority (ACARA) (Gebhardt et al., 2012) for the Australian Council for Educational Research, and the second, the *Study on assessment criteria for media literacy levels*, proposed by Celot and Pérez Tornero for the European Commission (2009).

National Assessment Programme – ICT Literacy

The framework proposed by ACARA for ML development is contained in the *National Assessment Program - ICT Literacy Technical Report*. The skills and competences considered in the design of the framework refers to three elements: technological skills, abilities to work with the information, and the use of information to communicate (Gebhardt et al., 2012: 9). The proposal is synthesized in table 2.

Study on assessment criteria for media literacy levels

The *Study on Assessment Criteria for media literacy levels* (Celot & Pérez Tornero, 2009), proposed a framework for understanding ML represented in a pyramid form (figure 1). The first two dimensions of ML were identified as being: Individual skills (ability to perform certain skills that will allow higher level of awareness, critical analysis and creative problem-solving abilities) and environmental factors (context elements affecting individuals, ML education and the rights of citizens).

The pyramid represents the dimensions and the criteria on which ML is based, as well as the relations of hierarchy and dependence between them. It is divided into three levels:

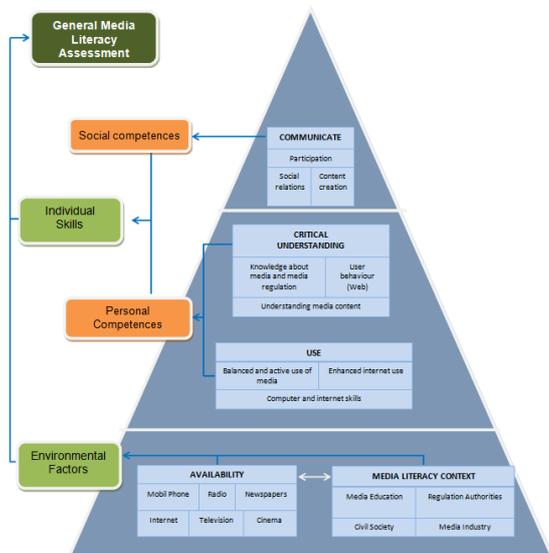
1. At the base of the pyramid are the environmental factors, which are considered as a prerequisite to developing individual skills. Environmental factors are divided in two elements: the availability of media and technologies, and the context of ML.
2. The middle level is composed of personal skills that are also divided into two main criterion: skills of usage and critical understanding. However they are not on the same level; the use of the media is considered as a prerequisite for a critical understanding of the products they deliver. Critical understanding refers to the individual's abilities to discriminate and identify the relevance and adequacy of the information to determine its value.
3. At the top of the pyramid lies the social competences, including communication skills. They represent the highest degree of ML, and its success depends on other levels of pyramid (Celot & Pérez Tornero, 2009: 33).

Table 2. Key processes and strands in the ACARA's framework

Processes	Strands	
1. "Accessing information. Identifying information requirements and knowing how to find and retrieve information."	Strand A	Working with information: "From using key words to retrieving information from a specified source."
3. "Evaluating. Reflecting on the processes used to design and construct ICT solutions."	Strand B	Creating and sharing information "From using functions within software to editing, formatting, adapt and generating work for a specific purpose."
4. "Developing new understandings. Creating information and knowledge by synthesizing, adapting, applying, designing, inventing or authoring."		
5. "Communicating. Exchanging information by sharing knowledge and creating information products to suit the audience, the context and the medium."	Strand C	Using ICT responsibly "From understanding and using basic terminology to the use of ICT in everyday life."
6. "Using ICT appropriately. Critical, reflective and strategic ICT decisions and considering social, legal and ethical issues."		

Source: Own elaboration from Gebhardt et al., (2012: 7,8)

Figure 1. Assessment Criteria for Media Literacy Levels



Source: Celot and Pérez Tornero (2009: 8)

c. Media and Information Literacy framework

UNESCO gathers under the term Media and Information Literacy (MIL) both the ML and the IL, which are described in the framework proposed in *Media and Information Literacy Curriculum for teachers* (2011a). This MIL framework contains the essential knowledge of the functions of media, libraries, archives and other information providers in democratic societies, the conditions under which they can perform efficiently and how to evaluate its contents development and the services they provide (UNESCO, 2011a: 15).

The MIL curriculum is developed over three main dimensions: knowledge of media and information to promote democratic discourse and social participation; evaluation of media and information, and the production and use of information and media. The three proposed dimensions are articulated in six specific curricular areas: policy and vision, curriculum and assessment, pedagogy, media and information, organization and administration, and professional development of teachers.

The basic elements of the framework, grouped in six competences, are oriented towards the development of individual skills and abilities, (UNESCO, 2011a):

1. Understanding the role of media and information in democracy.
2. Understanding media content and its uses.

3. Accessing information effectively and efficiently.
4. Critically evaluating information and their sources.
5. Applying new and traditional media formats.
6. Locating the socio cultural context of media content.

UNESCO's framework is presented as a flexible tool that can be adapted to different needs and socio cultural contexts (2011a: 23). Its final goal is to achieve the development of an active citizenship through media and information channels in a meaningful and critical way.

3. INTERPRETATIONS OF THE CONCEPT: STUDIES ON MIL COMPETENCES

a. Studies typology and methodologies

Frameworks for IL, ML and MIL show, as noted by Renee Hobbs, some of the different theoretical lines related to the new literacies that have emerged in the last 50 years due to the introduction of ICT in society, "each term is associated with a particular body of scholarship, practice and intellectual heritage" (2010: 17).

The frameworks represent the umbrella under which educational curricula, policies or other institutional and civic initiatives in the field of ICT are developed. However, in order to generate appropriate measurements and promote new literacies it is necessary to understand the current situation, in particular the existing needs, gaps and challenges (UNESCO, 2013). This assessment is a necessary step between the theoretical and social reality.

In the context of measuring competences, the Communication and Education Cabinet (UAB), largely experienced in ML research projects², began in 2012 the DINAMIC project, which aims to design a series of indicators and develop a set of tools for the measurement of ML levels in a statewide level.

In the context of the *Study on Assessment Criteria for Media Literacy Levels*, the DINAMIC project identified, classified and worked on 17 competences measuring initiatives in this area (table 3). The majority of these initiatives were carried

² "Promoting Digital Literacy" (2004), "Study on the current trends and approaches on Media Literacy in Europe" (2007), and "Study on Assessment Criteria for Media Literacy Levels" (2009).

Table 3. Analyzed initiatives

	Initiative	Author	Year	Country / Region of implementation
1	A Media Literacy Quiz	Literat, I.	n. d.	United States
2	B2i Brevet Informatique et Internet. Lycée. Feuille de position B2i	Ministère d'Éducation Nationale	2006-2011	France
3	Better Public Services through e-government: Academic Article in support of Better Public Services through e-government	Margetts, H.; Dunleavy, P.	2002	United Kingdom
4	Bibliotecas escolares, ¿entre interrogantes? Herramienta de autoevaluación. Preguntas e indicadores para mejorar la biblioteca	Míret, I. et al.	2011	Spain
5	Community survey on ICT usage and e-commerce in enterprises	European Union	2013	Europe
6	Competencia mediática. Investigación sobre el grado de competencia en la ciudadanía en España	Ferrés i Prats, J. et al.	2011	Spain
7	E-skills career tool: linking ICT skills to jobs	ECDL Foundation	2010	Europe
8	European Union survey on ICT usage in households and by individuals	Eurostat	2013	Europe
9	Identify your ICT needs	European Commission	2010	Europe
10	IT Card	European Software Institute	n. d.	Spain
11	National Assessment Program. ICT Literacy 2011. Year 6 and Year 10. Technical Report	Gebhardt, E. et al.	2012	Australia
12	Nonprofit Social Media Policy Workbook	Idealware	2012	Global
13	PIAAC Background Questionnaire	OECD	2013	Global
14	PISA 2009 Results: Students on Line: Digital Technologies and Performance (Volume VI)	OECD	2011	Global
15	Questionnaire - Children aged 5-15 (Master)	OFCOM	2009	United Kingdom
16	Survey of Schools: ICT in Education. Benchmarking Access, Use and Attitudes to Technology in Europe's Schools.	European Schoolnet; University of Liège Psychology and Education	2013	Europe
17	Testing and refining criteria to assess media literacy levels in Europe	European Commission	2011	Europe

Source: Own elaboration

out mainly in the last 5 years, although there are some that were done over 10 years ago (*PISA*, *B2i*, *National Assessment Program*).

After reviewing the initiatives some trends emerge. The measurement of initiatives do not have consensus, each organization focuses its studies on a conceptual line. Almost half of the studies are commissioned to measure the technical skills of usage, and the rest are related to information or other media practices.

With regards to the measurement techniques used, there are two main groups:

- **Questionnaires:** Within the skills measurement initiatives analysed, the use of open-ended questions is common (see table 4). Through these and/or combined with

open questions, studies such as *Survey of Schools: ICT in Education. Benchmarking Access, Use and Attitudes to Technology in Europe's Schools*, assess the perception of individuals with regard to their skills, confidence in technology and access to it, use of software or Internet, their abilities to work with information and the individual or collective communicative practices.

- **Tests:** In this type of evaluation attention is not only given to the result of the questions, but also to the process. Initiatives such as the *National Assessment Program* in Australia, which through a battery of tests, provided information on the student's skills in practice and not only those based on the perception related to their own competences.

Another aspect of these literacy measuring initiatives is that only six of the studies are conducted through computer-based assessment platforms, in either an online or offline form. Only two of the studies, *PIAAC Background Questionnaire* and *PISA 2009 Results*, used computer-based assessment and non computer-based assessment.

The initiatives collected in this study have been classified into three blocks of literacy: Digital, Information and Media; which are related to the concept itself or to the type of literacy used in

the studies as reference framework (from which they set forth their assessments).

b. Types of literacy

Digital Literacy

According to the *Study on Assessment Criteria for Media Literacy Levels*' criteria, the largest concerns of the institutions are found in the first level of individual skills. Seven of the initiatives listed,

Table 4. Initiatives analysis

Study	Type of literacy initiative	Scope	Initiatives' techniques	Type of assessment
A Media Literacy Quiz	Media	Citizens	Questionnaire	Computer-based
B2i Brevet Informatique et Internet. Collège. Feuille de position B2i	Digital	Education	Questionnaire	Non-computer-based
Better Public Services through e-government	Media	Public administration	Questionnaire	Non-computer-based
Bibliotecas escolares, ¿entre interrogantes? Herramienta de autoevaluación	Digital / Information	Education	Test	Non-computer-based
Community survey on ICT usage and e-commerce in enterprises	Digital	Companies / Organization	Questionnaire	Non-computer-based
Competencia mediática. Investigación sobre el grado de competencia en la ciudadanía en España	Media	Citizens	Questionnaire / Test	Non-computer-based / Computer Based
E-skills career tool: linking ICT skills to jobs	Digital	Citizens	Questionnaire	Computer Based
European Union survey on ICT usage in households and by individuals	Digital	Citizens	Questionnaire	Non-computer-based
Identify your ICT needs	Digital	Companies / Organization	Questionnaire	Computer Based
IT Card	Digital	Citizens	Test	Computer Based
National Assessment Program. ICT Literacy 2011	Digital / Information	Education	Questionnaire / Test	Computer Based
Nonprofit Social Media Policy Workbook	Media	Companies / Organization	Test	Non-computer-based
PIAAC Background Questionnaire	Digital / Information	Citizens	Questionnaire / Test	Non-computer-based / Computer Based
PISA 2009 Results	Digital / Information	Education	Questionnaire / Test	Non-computer-based / Computer Based
Questionnaire - Children aged 5-15 (Master)	Media	Education	Questionnaire	Non-computer-based
Survey of Schools: ICT in Education. Benchmarking Access, Use and Attitudes to Technology in Europe's Schools	Digital	Education	Questionnaire	Computer Based
Testing and refining criteria to assess media literacy levels in Europe	Media	Citizens	Questionnaire	Non-computer-based

Source: Own elaboration

as illustrated in table 4, focus on DL and have an assessment approach primarily related to technical skills such as the kind of access, the variety of media used, the type of media used and the frequency or reliance upon them.

Information Literacy

Information competences are associated with the second level of the pyramid of individual skills. They are related to, evaluation and organization of information from various sources, the search abilities, classification of audiovisual texts and how the media operates.

The result of this block is a summary of four studies, including *PIAAC Background Questionnaire or PISA 2009 Results*, that developed elements of DL and IL.

Media Literacy

This is the last block which includes six of the initiatives reviewed (table 4). Here, the literacies mentioned above and ideas are brought together and complemented with the inclusion of new skills. In Media Literacy, Digital Literacy and Information Literacy are united and the competences related to communication, content creation and participation of individuals in society are added.

c. Scopes

Skills assessment, either from the perspective of DL, IL or ML, are classified according to the collective to which it refers. Therefore, with reference to the DINAMIC project, the collected studies were grouped into four blocks of incidence: citizens, education, companies/organizations and public administration (table 4).

Citizens

The focus of some of the selected initiatives seeks to assess the skills of citizens. The ML level of the population is a concern of governments and other institutions; insofar it can provide empowerment to the individual (Celot & Pérez Tornero, 2009). Among the initiatives listed, seven of them focus on the measurement of the different competences in the society as a whole, some of them claim to offer an overview of the situation of the citizens' literacy and others provide an initial assessment from which the individual can develop their literacy needs.

Education

This is the scope, along with the citizens', which received the largest attention in the different measurements done by the analyzed initiatives and the frameworks, that point out the importance of ML in education (UNESCO, 2011a; UNESCO, 2013; Gebhardt et al., 2012; ACRL, 2000). Six studies correspond to strategies for measuring competences in education, either collectively or as actors involved in the process (teachers, students, parents).

Companies/Organization

The European Commission states that, "Industry complains about growing gaps and mismatches between the supply and the demand of specific e-skills" (2007: 5). The institutions also point out the rising of parallel universes between industry-based and government-supported education in ICT. To try to assess this gap within companies and organizations, DINAMIC collected information related to this block. The study collected the results from three measurement initiatives in order to understand the current situation of workers in the labor market, from companies to non-profit institutions.

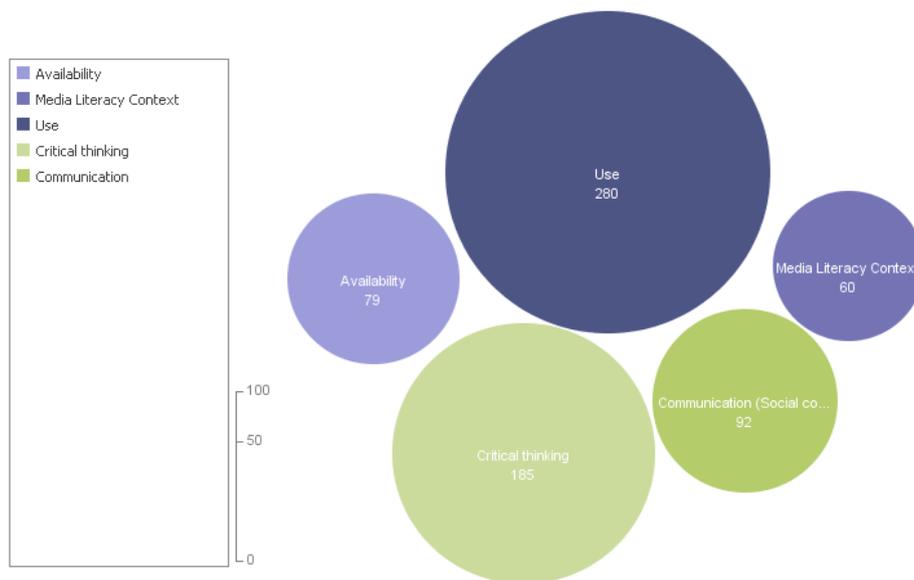
Public administration

The final scope found in these initiatives relates to public administrations. As they are responsible for giving opportunities to citizens, they have to adapt its behavior and offered services to the modern society through establishing initiatives such as e-government or political transparency of data. However, it is important to note that, despite the importance of this subject within the concepts of ML and in the frameworks set forth in the preceding paragraphs, DINAMIC study found only one relevant study on indicators to measure the ML of public administrations.

IV. Specific competences on the MIL studies

The studies previously listed were classified from their own conceptualization within the general theories on ML. The last part of this paper aims to conduct a review of the competences measured in the studies analyzed, identifying the skills that were taken into account and the major absences in the evaluation process.

Figure 2. Media Literacy Criteria (Total: 696)



Source: own elaboration

This will be done through an analysis of the frameworks defined in the second paragraph of the article (and mainly in the ML framework³). The article analysis will implement criteria and components from Figure 1.

To identify the specific skills of each of the studies and present an overview of what they measure, each of the questions in the studies were classified according to the criteria which it answered, and the ML component it referred to. The studies analyzed 696 individual questions. The overview of the criteria for ML represented by the questions can be seen in Figure 2.

The figure shows that the questions on competences focus on the individuals using media and ICT. 40% of the studied questions are related to the use. Figure 3 also shows that the two criteria associated to personal skills occupy more than 65% of the analyzed questions. Therefore, criteria such as communication or media availability only make up a smaller portion of all the questions, although they are also very important factors to the holistic concept of ML (Celot & Pérez Tornero, 2009). It is also important to note that the criterion that weighs the least in the different studies is related to the environment needed to enhance ML in different sectors and actors. The criterion of

ML context is represents only 8% of the questions found in the studies.

The analysis of the criteria's components also marks a trend in favour of personal skills in almost all the analyzed questions. Likewise, it can be seen that the use of computers and Internet remains to be the competence that has a much bigger presence in the studies compared to the other components. In addition the difference is fairly significant. Figure 3 shows that the second and third important components based on the number of questions, are knowledge of the media and its regulations and the user's understanding of the media contents. Although there are fewer questions for these components compared to the basic use of devices and Internet, it is a very important to note that critical understanding is recognized as one of the central elements of ML.

The general scenario of the study performed also allows highlighting two important aspects. The first is based on the importance of all components related to individual skills in the studies over the elements and components related to environmental factors in ML⁴. The situation is paradoxical because an important part of the results found in quantitative studies of individual skills, can be explained by factors that

³ ML framework responds to the holistic view of the competences of ML, which integrates the current IL and suggests a more settled theoretical and practical content in terms of a definition of indicators that the new concept of MIL describe.

⁴ Exceptions are located on the components of participation, networking or e-learning (communication criterion). The two components located within the social competences of individuals, involving social networking applications, collaborative work and active participation, have only been taken into account since the early years of the second decade of the 21st century.

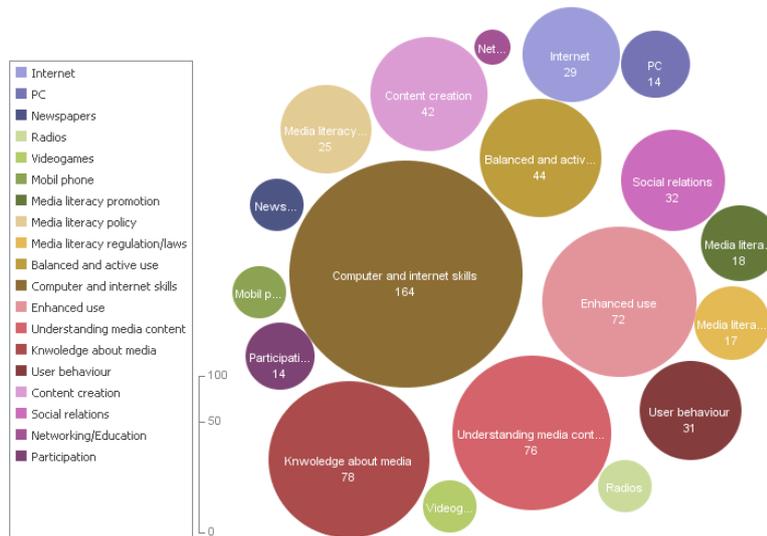
precisely fit the criteria of media availability and ML context. Certainly, access to technologies and/or the fact of having an educational public policy that promotes ML allow higher development of individual skills (UNESCO, 2013).

The second element that must be observed is composed by the two criteria that are part of the environmental factors of ML. While the general level of media availability criterion is more representative than the ML context, when observing the components it can be noticed that the three basic elements of the context (promotion, ML policy and regulation or related laws) acquire a largest relevance in the studies concerning availability itself.

By placing the focus of the analysis over specific individual competences (social and personal skills) it is proved that the majority of studies centre their attention on the personal ones. As it can be established in Figure 4, the approximations to the components related to the abilities developed on a personal level (use and critical understanding) meet more than 80% of the questions on personal skills. On the contrary, the communication criterion (individual social skills) remains relegated from studies and barely reach 16% of the 557 questions.

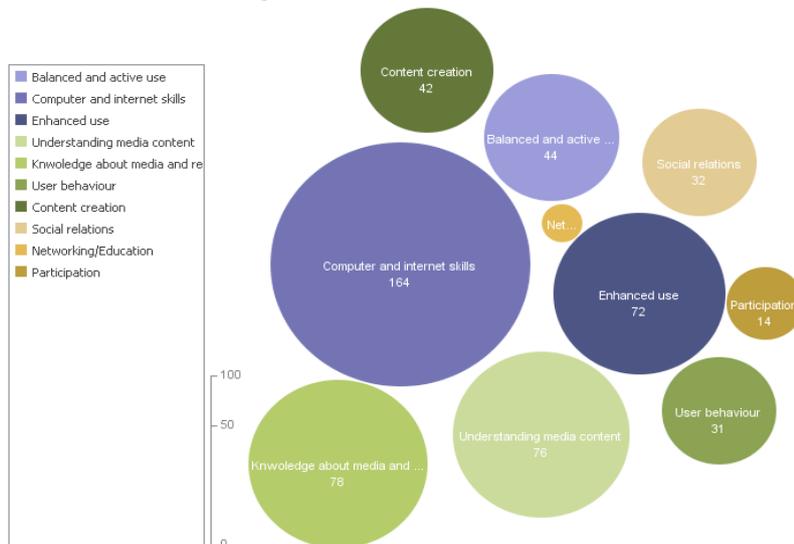
A further analysis of the questions used in the studies also shows that it lacks some components which are part of the ML framework.

Figure 3. Media Literacy Components (Total: 696)



Source: own elaboration

Figure 4. Individual Skills (Total:557)



Source: own elaboration

Firstly, from the point of view of environmental factors, there are no studies analyzing actions of regulatory authorities, media industries or the civil society (Pérez & Delgado, 2012: 32). On the other hand, with regards to the poll questions on the use of different media and formats to access information, the studies tends to eliminate the “traditional” media and replace them with new ones, i.e. questions on television, radio or film, have been replaced by those on mobile applications and tablets.

Secondly, for personal skills, it is worth noting that there is a lack of approaches attempting to demonstrate and explain the balanced use of the media by the consumer. Similarly, it is necessary to rethink the usages of Internet and devices, especially when differentiating between basic and advanced consumptions. Finally, for critical understanding, most studies ignored -as a result of its methodology- questions which measure the users’ behavior towards media.

Finally, for social skills, the studies do not assess the use of ICT by individuals for cooperation, networking and learning through Internet. In the same social aspects, although there are some studies that attempt to investigate participation competences of individuals, it is necessary to emphasize on citizenship and participation skills. Being one of the objectives of ML (Carlsson et al., 2008; Celot & Perez Tornero, 2009: 23) the construction of an active citizenship must be included in the studies as indicators.

Conclusions

The majority of the initiatives reviewed put too much focus on the results over the process. They focus on the scores achieved but it lacks further analysis on how the individuals achieve this result. The practice is an important way to know how media literate an individual is considering that it is the process which brings new evidence about the factual competences of the individuals.

Techniques used by the majority of the initiatives do not include computer-based assessments. Assessing the skills related to ICTs without using technological tools during the measuring stage is in a way a contradiction since technological skills could easily be applied by conducting simple computer-based exercises. By implementing computer-based assessment (online or offline), the results and findings could end up being more reliable. Future studies should focus on the integration and adoption of these technologies in the assessment processes.

The analyzed frameworks describe a set of criteria to develop ML competences. In this sense, **the instrument designed to assess the MIL levels have to integrate in its components a group of indicators which are able to describe the situation of ICT availability and ML context.** These indicators also have to measure the actions carried out by different relevant actors (professors, media industry, public authorities, etc.) to promote ML in specific contexts.

The tests and questionnaires designed to assess ML should not forget issues related to “traditional media” (especially television, film, newspapers and radio). Traditional media remains to be the most used communication channels for the majority of users. Such assessment could result in important data and an interesting explanation of the behaviour of users and the adaptation framework in relation to the available technology.

Finally, the assessment tools to measure media literacy levels **have to be designed taking into account equilibrium between different framework criterion.** The measurement tool should be useful for the stakeholders interested in measuring their skills in ML. The instrument should allow the users to vary the weighting between the questions according to their specific interests (individual, educational, organizational, etc.).

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