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ARTICLE

Information literacy
a systematic literature review

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ABSTRACT
Introduction: The article aims to verify the research scenario on Literacy, both as a type of approach - digital literacy or information literacy – as well as the main knowledge areas in which the subject is studied. **Method**: Systematic Literature Review (SLR). **Results**: The literature reviewed showed that information literacy is discussed with great emphasis in the papers retrieved, mainly in the areas of Librarianship and Education. **Conclusions**: Studies with focus on Information Literacy represent not only a demand of the present society but also express a concern about the development of actions that can insert it in the scope of lifelong learning in the nowadays context of technological advancement.

KEYWORDS
Information literacy. Digital literacy. Digital media. Information competence.

Literacia da informação
uma revisão sistemática da literatura

RESUMO
Introdução: O artigo tem como objetivo verificar o atual cenário de pesquisa sobre a Literacia, tanto na perspectiva do tipo de abordagem- literacia digital ou literacia informacional- quanto às áreas do conhecimento em que se investiga o tema. **Método**: Revisão Sistemática da Literatura (*Systematic Literature Review*). **Resultados**: Foi possível constatar que a literacia informacional é o tema com maior ênfase nos estudos pesquisados, como também a Biblioteconomia e a Educação foram as áreas de conhecimento com maior destaque nos estudos analisados. **Conclusões**: Estudos que se dedicam à literacia informacional representam não somente uma demanda da atual sociedade, como também exprimem uma preocupação no desenvolvimento de ações que possam inserir o tema no âmbito da educação formativa e da aprendizagem para a vida em um contexto de avanços tecnológicos sem precedentes na história da humanidade.

PALAVRAS-CHAVE
Literacia informacional. Literacia digital. Mídias digitais. Competência informacional.

JITA: CE. Literacy

1 INTRODUCTION

The media and other information providers, especially the Internet, have expanded in recent years the sources of research and search for information. The possibilities and resources offered, especially in the context of the network, can explain the great adhesion and expansion of its use worldwide. In the case of the Brazilian population, the National Home Sample Survey conducted by the Brazilian Institute of Geography and Statistics (IBGE) in 2016, pointed out that 64.7% of Brazilians over 10 years may be considered active users of the Internet.

Being connected to the net can lead to two optimistic visions many times making believe in a direct and positive relationship between them: the first, that these users belonging to the digital environment are familiar with the available resources and tools and the second that they have domain in the use of the information produced in these environments. However, what is perceived is a different reality, where not always the user who holds the knowledge of the resources and digital media also holds dominion over the use of the information produced by these media.

Following this approach, it is possible to elaborate a critical perspective that takes into consideration the importance of preparing users to deal with the power of the media and their resources in today's society - digital literacy - but that also cares about how Internet users make use of the information originated through the media that permeate the world, and that must be based on the formation of critical citizens in the use of and relationship with these media - information literacy.

In this sense Campello (2003) warns that having fluency in technology is only one of the components of information literacy or information competence, since it involves the ability to read and use information necessary for everyday life.

It is thus believed that digital literacy (DL) is an important step towards achieving information literacy (IL), which in turn goes beyond digital resources and tools, and therefore it is not possible to establish a necessarily positive relationship as a consequence of this in relation to it. As postulated by UNESCO (2005), the LI is considered a basic right as or more important than access to technology.

Knowing how to deal with information from the perspective of good practices in search, selection and use is part of the competencies that involve information literacy and, therefore, the role of users in relation to access and use of traditional and digital media is not limited to a specific area of knowledge. An example of this, according to Silva e Marcial (2010) was that in the 1980s, the formative and cultural practice of librarians led to the creation of standards for library users to learn how to deal with information content. However, as the authors warn the phenomenon of information literacy goes beyond the standards of good practice in the area of librarianship.

Thus some questions arise: under which approaches is informational literacy being researched? In which area(s) of knowledge is informational literacy being researched?

These questions motivated a study that aimed to verify the panorama of studies of informational literacy from two perspectives: the first by the focus of the subject - digital literacy or informational literacy - and the second by the area(s) of knowledge in which the subject is being investigated. The study adopted as methodology the systematic literature review (SLR), and this article presents its results.

The sequence of the article, after this Introduction, has the following structure: the second section presents the guiding concepts; the method used and the research process are discussed in section 3; the analysis of the selected articles is presented in section 4, and the final considerations are described in section 5.

2 DIGITAL LITERACY AND INFORMATIONAL LITERACY

Today's society, which lives an "era" marked by the massive development of information and communication technologies (ICT), is surrounded by a scenario characterized by a large volume of information easily accessed by several people in different devices, without limit of time and space. The users of this information can be both producers and direct consumers, and in many cases there is no need for intermediaries to validate processes of information and communication interaction.

In this sense, it is observed that the availability of this information follows the advances in tools and technological resources that dictate a rhythm whose personal skills for information management such as search, selection, evaluation and use cannot keep up. As Hatschbach points out (2002, p. 9) "information is a strategic resource to be managed and raw material for most professionals of the 21st century".

In fact, it is increasingly necessary to prepare professionals for the challenges that emerge from today's society by demanding competent citizens to deal with the large amount of information conveyed in the digital universe of the Information Society.

It is in this context that the term information literacy emerges and, as one would expect, in the same decade that the concept of the Information Society emerges. The term LI was recommended in 1974 by the American librarian Paul Zurkowski, through the publication of the report *The Information service environment relationships and priorities*.

The information literate was considered in 1979 by the Information Industry Association (IIA) as one who knows techniques and skills to use information tools in order to find solutions to problems. The term has been gaining discussion in the United States and Australia and therefore according to Virkus (2003) the largest volume of literature on the subject is found in these countries.

With the evolution of information and communication technologies in the 80's and 90's there was an unprecedented growth in the volume of information available in the digital environment, thus influencing the concept of informational literacy. The proximity between the two literacies (also understood as competencies) can lead to confusion or even the presumption that one term is equivalent to the other.

They should therefore be distinguished. For this study, the distinction made by UNESCO (2008) was adopted, which characterizes media competence as a convergence of knowledge, skills and attitudes, in relation to the use and understanding of means and processes of mass communication, which occurs in advanced stages of development of society. On the other hand, information competence is understood as the mobilization of knowledge, skills and attitudes related to the information universe, therefore, beyond the handling of digital tools, integrating reading and writing skills, information search and use, data organization and manipulation aiming at producing new information and knowledge, its dissemination and preservation for its future reuse.

Thus, it is important to recognize that being competent in the use of the means of access to information, especially in ICT - digital literacy - is a form of belonging to the informational universe, however such competence is not necessarily a guarantee of competence or informational literacy. As Schuhmacher, et al. (2016) warn, media competence, which has its emphasis on technology, requires skills in operating, communicating and understanding the functioning of technology and programs and applications (...). For the authors, the instrumental use of technologies does not guarantee an enlightened and participatory citizen, because the manipulation of programs does not require skills, reasoning and abstraction, since the technologies were developed to be functional and "user friendly".

Therefore, it can be said that information literacy enables the development of skills that allow a person to identify, locate, evaluate and use the information needed to solve problems. It is with this in mind that the American Library Association (ALA) has established the widely accepted definition quoted in literature to date, "informational literacy is defined as the ability to know when information is needed; it is able to identify, locate, evaluate, and use that information effectively. (ALA, 1989).

3 METHODOLOGY

According to the objective of this article, the systematic literature review (SLR) was adopted as a research method, as it is a well-defined method to identify, evaluate and interpret relevant studies in relation to a given research question or study area, as described by Mahdavi-Hezavehi and Galster (2013).

To analyze the studies on information literacy, three steps were followed:

1) Planning: in this stage the review protocol and the research question were defined;
2) Execution: stage in which the selection of studies according to the plan in the previous stage took place;
3) Analysis: last step in which the analysis of the results found after the execution was done.

3.1 Research Issue

To achieve the objective proposed in this article, SLR has brought subsidies to answer the main question [MQ] of this paper: In which area(s) is (are) research on information literacy being conducted? And to define the focus within the context of [MQ] response, two specific actions [SA] were planned:

[SA1]: Identify studies that focus on information literacy as a media competence (digital literacy), i.e., emphasis on technology;

[SA2]: Identify studies that focus on information literacy as an informational competence, i.e., emphasis on information management.

3.2 Research Process and Selected Articles

The research began with the identification of journals in the Sucupira Portal in the areas of "Communication and Information" and "Teaching", positioned in extracts A1, A2 and B1, as they are indicators of quality in scientific publications. The publications written in Portuguese from 2013 to 2016 were considered.

The search terms used were: "information literacy" and "information literacy". As the results were unsatisfactory, since few studies were located, we chose to direct the search, with the same terms, without date filter, to journals from the "Interdisciplinary Area" keeping the same extracts A1, A2 and B1: Information Science Journal, Communication and Society Journal, Brazilian Research in Information Science and Librarianship, Communication and Innovation Journal.

In order to expand the research, it was chosen to search, with the same terms, in other repositories of great repercussion in the academic environment Scientific Electronic Library

(SCIELO) and Database in Information Science (BRAPCI). Since the SCIELO repository makes available for research the option "by subject" were chosen as areas "Applied Social Sciences" and "Human Sciences" because they are related areas, with the possibility of working on the subject researched.

In order to recover a greater number of articles for analysis, increasing the accuracy of the results, Google Scholar (academic) added the search as it is a source of search and reference, whose organization is made through keywords thus facilitating and speeding up the location of articles published in the period initially defined - 2013 to 2106.

The identified articles were selected following three filtering steps:

1) Elimination by title. In this stage, the titles of the articles were read and those that were not relevant to the objectives of the research were eliminated;

2) Elimination by skimming strategy, where by reading the "abstract" it was possible to eliminate those articles whose main idea did not conform to the approaches of the research;

3) Complete reading with content analysis. In this last stage the articles were read in their entirety, with the purpose of selecting the set of papers, as shown in table 1.

Table 1. Number of articles per journal/repository searched

Repository	Periodical	Stage 1	Stage 2	Stage 3
Sucupira Portal (Evaluation Area: Communication and Information)	Informação e Sociedade- UFPB	0	0	0
Sucupira Portal (Evaluation Area: Communication and Information)	Perspectiva em Ciência da Informação´- UFMG	2	0	0
Sucupira Portal (Evaluation Area: Education)	Ciência e Educação	0	0	0
Sucupira Portal (Evaluation Area: Education)	Educação e Sociedade	0	0	0
SCIELO (Subject: Applied Social Sciences)	Intercom: Revista Brasileira de Ciências da Comunicação	0	0	0
SCIELO (Subject: Applied Social	Perspectivas em Ciência da	0	0	0

Sciences)	Informação			
SCIELO (Subject: Applied Social Sciences)	Revista Brasileira de Ciências Sociais	0	0	0
SCIELO (Subject: Applied Social Sciences)	Transinformação	0	0	0
SCIELO (Subject: Human Sciences)	Ciência & Educação (Bauru)	3	0	0
SCIELO (Subject: Human Sciences)	Educação & Sociedade	0	0	0
SCIELO (Subject: Human Sciences)	Educação em Revista	1	0	0
SCIELO (Subject: Human Sciences)	Revista Brasileira de Educação	5	0	0
BRAPCI	Ponto de Acesso-Revista do Instituto de Ciência da Informação da UFBA	1	0	0
BRAPCI	Revista Ibero-Americana de Ciência da Informação	1	0	0
BRAPCI	Revista Ciência da Informação-Brasília/DF	4	3	1
BRAPCI	Revista Biblioteca Escolar em Revista-USP	1	1	1
BRAPCI	Revista ACB: Biblioteconomia em	1	1	1

	Santa Catarina			
BRAPCI	Tendências da Pesquisa Brasileira em Ciência da Informação	1	1	1
BRAPCI	Anais XVII Encontro Nacional em Ciência da Informação	2	2	2
BRAPCI	Revista Brasileira de Ciência da Informação	1	1	1
---	Revista Ciência da Informação (on-line)	3	2	2
---	Revista Comunicação e Sociedade (on-line)	4	3	2
---	Revista Pesquisa Brasileira em Ciência da Informação e Biblioteconomia	1	0	0
---	Revista Comunicação e Inovação	1	1	1
Google Scholar	Revista Cadernos Bad	1	1	0
Google Scholar	Revisa Paginas a&b	3	2	0
Google Scholar	Revista ACB: Biblioteconomia em Santa Catarina	1	1	0
Google Scholar	Anais Alfabetizacion Informacional	1	1	1

Google Scholar	Anais XVII Encontro Nacional em Ciência da Informação	1	1	1
Google Scholar	Indagatio Didactica	1	1	1
Google Scholar	Revista Dynamis	1	1	1
Google Scholar	CETAC.MEDIA	1	1	1
Google Scholar	XIII Jornadas APDIS	1	1	1
Google Scholar	Repositório Científico do Instituto Politécnico de Lisboa	1	1	1
	TOTAL	**44**	**26**	**19**

Source: Prepared by the authors

In the third stage, where the complete reading of the articles was done, it was defined that each work would be classified as to the area(s) of knowledge in which the subject is investigated and as to the approach focus - digital literacy or informational literacy. Table 2 presents the authors, titles and repositories of the 19 articles selected during the systematic review, as well as the framing of each of them in the adopted classification.

Table 2. Selected articles

Author(s)	Title	Magazine	Knowledge Area	Approach Focus: DL or IL
Silva, Ramos e Batista, 2016	Challenges in the development of communication skills in the undergraduate courses of universities in the northeast of Brazil	BRAPCI	Education	Digital Literacy

Andrade, 2013	School Librarian Education: a case study on the library and information science course at UFSCAR	BRAPCI	Library and Information Science	Information Literacy
Passos e Pieruccini, 2016	Information and knowledge: the notion of attitude	BRAPCI	Library Information Science and Education	Information Literacy
Fonseca e Gomes, 2014	The interaction between librarian and user in a university hospital library environment: a study on health information literacy	BRAPCI	Health and Library Science	Information Literacy
Medeiros Neto e Costa, 2016	Mediation in digital literacy projects: social, cognitive, technological and collaborative aspects	BRAPCI	Education	Digital Literacy
Serra, 2014	Policy for eBook Management: the training of librarians and users	BRAPCI	Librarianship	Digital Literacy
Marcos, 2017	Promoting information literacy in a distance learning university: a successful experience	BRAPCI	Librarianship	Information Literacy
Santos, Simeão e Nascimento, 2016	Competence in information applied to students of Unb planaltina college: challenges and integration of library and teaching actions	Revista Ciência da Informação (on-line)	Education	Information Literacy
Campello, 2003	The movement of informational competence: a perspective for	Revista Ciência da Informação (on-line)	Librarianship	Information Literacy

	informational literacy			
Damásio, 2008	Contributions to the deepening of the concept of literacy: use of digital technology in teaching contexts	Revista Comunicação e Sociedade (on-line)	Education	Information Literacy
Silva, 2008	Possibilities and limits of ICT for civic literacy	Revista Comunicação e Sociedade (on-line)	Education and Communication	Information Literacy
Caprino, Pessoni, e Aparício, 2013	Media and education: the need for multiletrage	Revista Comunicação e Inovação	Education and Communication	Information Literacy
Alonso-Arévalo, Lopes e Antunes, 2016	Information Literacy: from digital identity to scientific visibility	Google Scholar	Librarianship	Information Literacy
Andrade, Camotim, Correia, Duarte, Lopes, Marques, Roxo, Story, 2015	The information literacy course of the new doctoral school	Google Scholar	Education and Librarianship	Information Literacy
Simeão e Costa, 2016	Information literacy: dialogue between Information Science and Education	Google Scholar	Education and Information Science	Information Literacy
Tavares, Laranjeiro, Oliveira, Ferraz e Pombo, 2015	Information literacy in higher education: proposal for a training module in distance education	Google Scholar	Education and Librarianship	Information Literacy
Schuhmacher, Schuhmacher Oliveira e Coutinho, 2016	Media and information literacy in exact science students	Google Scholar	Exact Sciences	Information Literacy
Silva, Martins, Azevedo, Pinto, Marcial e Guedes, 2016	Information literacy in the European Higher Education Area: studies of information skills in Portugal	Google Scholar	Education	Information Literacy

Antunes, Lopes e Sanches, 2018	Information literacy and open science in health: the before and the after	Google Scholar	Health	Information Literacy

Source: Prepared by the authors

4 RESULTS AND DISCUSSION

From the selected articles, it was possible to answer the main research question proposed in this work and thus specifically identify the approaches given by the studies, as presented below.

4.1 [SA1] Identify studies that focus on information literacy as a media competence (digital literacy), i.e., emphasis on technology.

With this approach Silva, Ramos and Batista (2016), researchers of the term literacy in Education, highlight the need for teacher training to use technologies that refer to digital literacy for the use of communication technologies, especially in undergraduate courses, which prepare new teachers. By the authors' idea, the teacher who possesses digital literacy has a new posture as a mentor who will help the student to organize information, formulate their opinions and, consequently, build their own knowledge.

With studies in the same area Medeiros Neto and Costa (2016) focusing on Youth and Adult Education (EJA) say that, although the reality in Brazil does not emphasize the issue of student use of technologies, the existence of this service in a school at night shift, provided a differentiated experience combining language teaching with digital literacy. The authors highlight school evasion as a recurrent problem in the country, and relied on student testimonials to emphasize the importance of developing digital ability and dexterity as a way to bring students and schools closer together. According to the authors, the acquisition of reading and numeracy skills to improve daily practices and routines was evidenced in the statements of EJA students as the justification for returning to school.

The study of Serra (2014), whose area of knowledge was the Librarianship, highlights the importance of training library users to use digital books, the so-called e-books, since they have shown a strong growth trend, with the supply of titles, services and suppliers expanding. The author emphasizes the urgent need for training the library staff and users to be able to take advantage of existing resources. He also highlights for librarians the importance of information competence as a tool for managing digital content and that any planning for the inclusion of digital content in the collections must provide for the training of both internal and external users.

4.2 [SA2] Identify studies that focus on information literacy as an informational competence, i.e., emphasis on information management.

With this type of approach Andrade (2013) emphasizes the need for the understanding of the role of the school library by principals, coordinators and teachers as fundamental for the formation of partnerships towards the education of the XXI century proposed by international bodies, aiming to empower the student and make him/her competent in information and an autonomous subject in face of his/her information needs, of search, recovery, identification and

resolution of problematic situations. According to the author, the librarian prepared to work in the education units, performs cultural, leisure and teaching activities for the school community through programs in the library and should carry out, in its social and performance context, interventions with the teaching plan to encourage teaching practices that take into account the ludic learning towards informational competence.

Sharing the same idea Passos and Pieruccini (2016) investigated how school research works to build attitudes of interest for knowledge and investigative spirit in students. These attitudes and investigative desire go beyond the access to technologies. They demand what the authors call "pedagogy of information" under the approach of educational informational devices and the formation of an attitude of interest for knowledge and "learning through research". They also emphasize that the assumptions adopted in the study are anchored in Info education, whose focus is the dynamics and practices that are articulated to the interests of the subjects, to the universe of the search for knowledge, acting in the formation of attitudes, in the construction and critical and creative participation of the subjects in the universe of signs, in the processes and challenges that the informational order, of the so-called Knowledge Society, imposes to the desire to know, to know, to understand and to say oneself in the world.

Regarding the subjects' attitudes, Fonseca and Gomes (2014) share a similar idea, in that they have evidenced in their studies that the users of information, when explaining their need for information with the librarian, in the reference service, determine, by means of an initial but definitive step, that literacy should happen, as well as the achievement of greater autonomy and, consequently, the development of competencies to locate, recover and use the information demanded.

The study by Marcos (2017) in the area of Librarianship proposed the acronym ALFIN "computer literacy" as equivalent to computer literacy explaining that such nomenclature, in the context of training users of information, includes not only the development of technical capabilities to allow access to digital information, but also the skills to analyze and evaluate it. The author quotes Martins (2013) to point out that currently, user training broadens the field of action, adding to its traditional goal of providing users with skills in the use of the library, catalogs and other information tools, new and more complex tasks, such as information retrieval, in order to stimulate critical thinking and decision-making.

Santos, Simeão and Nascimento (2016) investigated the offer of the discipline "Competence in Information" (CoInfo) in several courses of UNB Planaltina- DF College. According to the authors, CoInfo can be understood as the mobilization and integration of knowledge, skills and attitudes that enable the intelligent use of information recorded in various media, allowing the critical and active action of subjects in various sectors of the information society. They stress that CoInfo transcends the mere acquisition of the necessary skills to use the available informational and technological resources, since it involves the subject's capacity to assimilate and understand information to transform a given social reality, based on ethical, equality and sustainability aspects.

In the same sense Campello (2003) emphasizes that having fluency in technology is only one of the components of information literacy or information competence, which in turn involves the ability to read and use information necessary for everyday life. According to the author, who has relied on studies by Kuhlthau and Behrens, information competence also involves the recognition of the need for information and its quest to make well-informed decisions requiring the handling of complex masses of information generated by computers and the media, and learning throughout life, as social and technical changes demand new skills and knowledge.

Damasio's (2008) study in the area of Education made it possible to isolate two essential variables for the expansion of the concept of literacy: productivity and interaction.

The author describes that in addition to the interpretative skills traditionally associated with the concept of literacy, we should add a productive variable that refers not only to the ability to write, but also to the ability to manipulate and change the message, as well as another variable related to the ability to expand knowledge through interaction supported by technology. According to the author, through this study it was possible to redefine literacy as a process and not as a static property. He states that the theoretical framework has allowed isolating media usage and consumption properties in digital environments which, if empirically proven, can help to better understand the nature of contemporary experience, and to more efficiently model the educational process to adapt it to the new skills presented by children and young people who acquire media literacy in informal digital environments.

Silva (2008) has carried out the approach of information literacy under the focus of citizenship. Initially, the author describes the concept of digital literacy as equivalent to the essential skills for a citizen to get informed through the Internet. However, she warns that in addition to a concern with technical skills in the field of information technology or Internet browsing, it is discussed, for example, the investment and incorporation into official educational programs of media education. According to the author, however, it is a proposal already defended in relation to the mass media that preceded the dissemination of information technologies. She also warns that before the acquisition of online skills, other learning needs to be done and quotes Benjamin Barber who refers among these acquisitions to "learning to read an individual essay; learning to look for the data you need, in a library or a laboratory, instead of gaining easy access to endless streams of data that you don't need at all", since the possession of these offline skills is the first condition to make use of online.

From the author's point of view, greater dissemination of information does not necessarily mean better understanding or more knowledge. The autonomy in the collection and selection of information, which underlies the transformation of each one of us into our own journalist and editor, implies an increase in skills. It is necessary to know how to search, select, stop, evaluate the reliability of the information found, understand how to combine the various sources to elaborate the "assembly" and, finally, know how to use the final product for the task that had initiated the search. Thus, it finalizes the study characterizing the set of these skills as "civic literacy" which in turn is related, among other factors, to a capacity of critical analysis of political information conveyed by different media.

When it comes to media diversity, Caprino, Pessoni and Aparicio (2013) state that media literacy is "the ability to access, analyze, evaluate and communicate messages in a variety of ways". The authors use Pérez Tornero (2008) to explain that the term is used to describe the skills and abilities required for the independent and citizen-conscious development of the new communicational environment - digital, global and multimedia - of the information society. Media literacy is considered the result of the media education process. According to the authors to face the challenge of new technologies, it is necessary to think about new publications, or cognitive abilities of reading text, images and sounds that, include all types of media, even the "old" printed newspaper. Nowadays it is not enough for the student to be literate; he must be prepared to face any kind of message and know how to give adequate treatment and interpretation to each one.

As for challenges, Alonso-Arévalo, Lopes and Antunes (2016) highlight the abundance of information, determined by the extent of information and communication technologies, which requires people and entities the ability to identify the essential sources to have the information they need and be able to distinguish between the relevant and accessory, which requires greater cognitive skills, as well as social and professional to access and use them.

For the authors, the environment of social networks and online communities, which

generate innovative collaborative technologies, challenges the traditional definitions of information literacy and plays a determining role in today's world. In this context, information is not a static object that is simply accessed and recovered, but is a dynamic entity produced and shared in collaboration. Such a perception requires rethinking informational literacy as a metal literacy, which encompasses several types of literacy: digital, media, visual and technological. Knowing how to read is only the beginning; knowing how to frame a question, carry out a research, interpret the texts recovered, organize, evaluate and use the information to generate new knowledge is the essence of what is called "informational literacy".

The article by Andrade et al. (2015) reported an evaluation of the informational literacy course offered by the NEW Doctoral School of Lisbon to PhD students and their advisors. The formative model had innovative characteristics, starting with the challenge posed to potential participants: "Learn how the effective use of information can contribute to your academic success". For the authors, the course has met the interests and needs of the participants and they state that the definition of "information literacy" proposed by the Association of College and Research Libraries, by emphasizing dynamism, flexibility, individual growth and community learning, synthesizes this new paradigm: "*Information literacy is the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning.*[1] "

Simeão e Costa (2016) conducted a study in the areas of Education and Information Science, where they identified the concept of *Information literacy*[2] (IL) as an integrator among them. Although the study was conducted in the area of Information Science, the authors warn that this concept, its developments and practical applications point to an open, flexible, multivocal, hybrid and not restricted to the use of libraries. The authors conclude the article describing that the development of skills related to the use, access and communication of information is today a fundamental element in the promotion of an inclusive society in the social and digital aspects related to people with disabilities. In the educational field they point out that the demand for specific skills falls on the figure of the teacher, who needs to make great efforts in the management of his teaching practice whose complexity increases as the complexity of society also increases.

Sharing the same idea in the educational field, Tavares et al. (2015) point out that the current models of learning, characterized by the construction of participatory knowledge and centered on the development of skills by the student, determine the perception and critical understanding of processes related to the communication of science and its publication by formal and informal means. They affirm that academic libraries assume an essential role, providing services with added value to their users, notably in promoting the development of competences linked to the access, evaluation and proficient use of (sources of) scientific information.

Still in the area of Education, but focusing on Exact Science students, Schuhmacher et al. (2016) explain that the student who arrives at university and who participates in the current Information and Knowledge Society, needs to be competent in types of emerging literacy, not only the ability to read, write or make calculations, but also the ability to handle digital media and information. The authors cite the 2005 Alexandria Declaration, which states that information competence and lifelong learning are the beacons of the information society,

[1] Information literacy is the set of integrated capabilities that encompass the reflexive discovery of information, the understanding of how information is produced and valued, and the use of information to create new knowledge and ethical participation in learning communities.

[2] The authors make use of the term in its original form

determinants for the development, prosperity and freedom of individuals and nations.

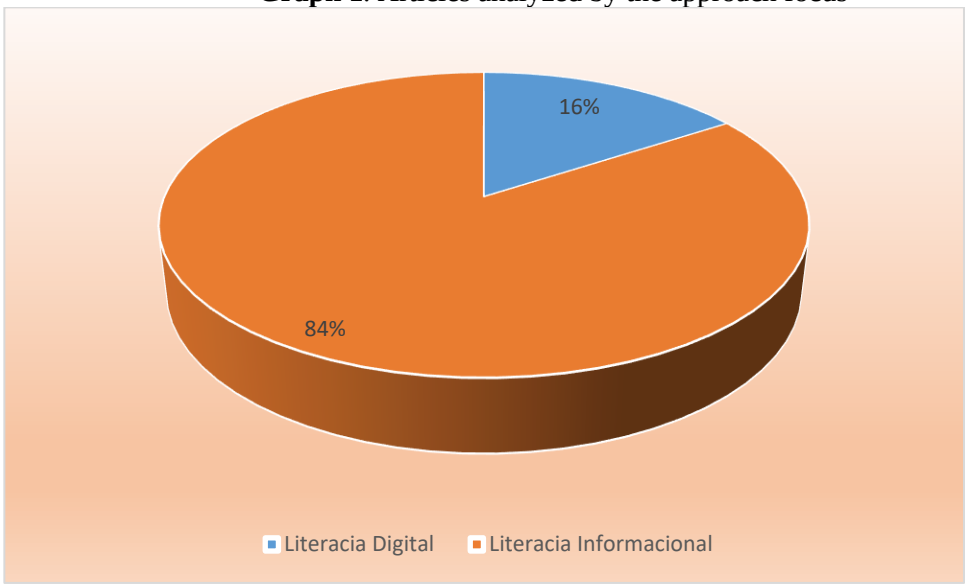
They found that skills in handling technologies are rapidly acquired by students, who feel comfortable in using them, but the difficulties mount when it comes to critical access to information for the purpose of presenting academic or research papers for the acquisition of knowledge, in teaching and learning contexts. The difficulty of transforming information into knowledge is worrying, as students show a lack of information skills and there is a lack of respect for copyright. They conclude the article by describing that the media skills (digital literacy) in students' perception are limited to the ability to use technologies, in which they demonstrate great skills, which can be credited to the daily use of ICT resources at home, at school or in the work environment. However, the skills needed to move from dexterity to knowledge are still far below what is desirable, since the skillful use of technological tools is no guarantee of problem solving.

Silva et al. (2016) conducted a study on the level of information skills of Portuguese students in Higher Education and Secondary Education. Although partial, the results obtained allowed us to foresee how the orientation to carry out research and use the information should be an integral part of the teaching/learning process, with the teacher assuming an important role, although one cannot ignore the influence of friends and family in this field. They warn about the need to work towards an articulation between the formal educational triad (teacher, student and school library) and the informal level, composed by a mixture of groups/partners, without forgetting the role of ICT and its influence in the motivation and satisfaction of students, considering that we are facing a "digital native" generation. According to the authors, the analysis naturally leads to the proposal of intervention measures. However, they do not consider that the LI problem can be solved with a set of recipes. They found that the European Higher Education Area brings new demands to Portuguese students, making it evident that they do not have the desired level to successfully respond to such demands. It is also evident that the role of the different agents is very important when it comes to implementing the necessary measures and actions, but what is truly crucial is the establishment of an educational policy that works in the search for the articulation of agents and that shows a real interest and commitment to the LI problem in that country.

The last study analyzed in this article, whose authors are Antunes, Lopes and Sanches, (2018) points to an associative relationship between informational literacy and Open Science, which, in turn, aims to link the academic environment with a broader public, representing the transparency of research processes and open access to data and scientific publications. The authors explain that, in general, researchers have expertise in information search strategies, evaluation of recovered results, creation of alerts, management of references and publication of results. With Open Science, however, new competencies are required for the management of scientific data, open sources and open access publication. It is in this understanding that, according to the authors, Open Science intersects with information literacy. Open Science is, therefore, the source and result of scientific research, teaching and learning in a university context, in which higher education libraries must contribute through information literacy, that is, by fostering practices that involve knowing how to research, select, evaluate and use information. These are skills that contribute to the improvement of student performance and benefit the work of researchers. The authors conclude the study by reiterating that information literacy is an essential learning tool for the development of Open Science, improving and enabling the critical understanding of content, along with the development and progress of research.

Thus, by analyzing the articles selected by this SLR and visually represented by graph 1 it is possible to verify that 84% of the studies focused on informational literacy against 16% that addressed digital literacy.

Graph 1. Articles analyzed by the approach focus



Source: Prepared by the authors

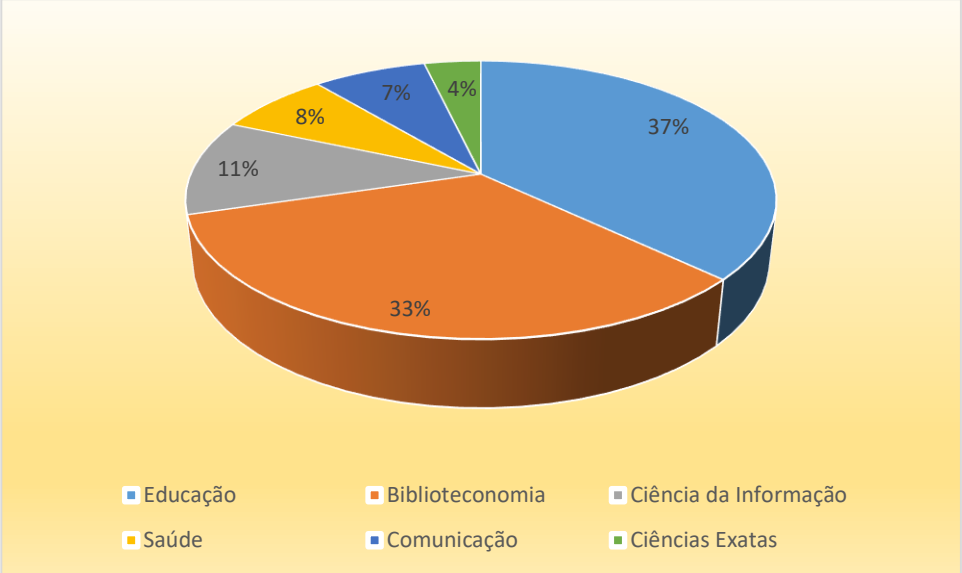
From these data it is possible to infer that although digital literacy is considered one of the levels to achieve informational literacy, there is an emphasis on studies on it to the detriment of that literacy. This fact can be explained both by the scenario of requirements in the development of the skills needed by the citizens of the current Information Society, because being literate in technology, as stated above, does not mean aptitude or dexterity in the ethical and appropriate use of information, nor the acquisition of new knowledge. At the same time, people born and socialized in this socio-technical context usually have great ease in dealing with the technological apparatus, i.e., they hold digital literacy almost spontaneously, which reduces the importance and need for research in this regard.

In view of this, one can observe the paradoxical action of the current advances in information technology. At the same time that they allow access to a great volume of information, independently of time and space, they demand the capacity, without precedents, of critical analysis of the accessed content. As Garcia (2016) warns "in a context of information overload, critical thinking and the need to selectively identify competitive factors in any type of message represent the undeniable value of information literacy".

Having information competence means, in the current pervasive context of ICT, being able to deal with the excess of information content and its variety of formats in an environment where information is not always required by the user, it often reaches him or her even before the perception of his or her need.

As far as the areas of knowledge are concerned, graph 2 shows that Librarianship and Education were the areas that gave the most emphasis to research on the subject, 33% and 37%, respectively. The other areas were thus represented: Information Science with 11% of the studies, Health with 8%, Communication with 7% and Exact Science with 4% of the studies.

Graph 2. Articles analyzed by the area of knowledge



Source: Prepared by the authors

Due to the term LI having appeared in the context of the Librarianship, it is understandable that the emphasis of the studies falls on this area, however, the subject should extend to other areas of knowledge, since the informational competence refers to the user of the information, regardless of the area in which he acts or will act. The LI refers to competencies essential to the subject in contemporary society. As mentioned by UNESCO, it is the mobilization of knowledge, skills and attitudes related to the informational universe, encompassing reading and writing capacity, information search and use, data organization and handling aiming at producing new information and knowledge, its dissemination and preservation for its future reuse.

Thus, besides not attributing the LI exercise to a specific area of knowledge, Sanches (2016) defends the idea of not legitimizing a single discipline as specific for its study and dissemination, but making it a constant presence in all curricular subjects of any course, therefore of any area of knowledge.

4.3 Future Works

The articles analyzed in this SLR showed an equivalence in the nationality of the authors: half of them are composed by Brazilian authors and the other half by Portuguese authors.

Thus, it is suggested as future works an in-depth investigation to verify the level of publication of national authorship within the Brazilian context.

5 FINAL CONSIDERATIONS

This article presented a systematic review of literature to check the literature study panorama in the period indicated. In this sense, it was observed that the emphasis on information management has overlapped with access to technology, confirming what was previously reported - access to technology alone does not guarantee good practices in the information universe.

In fact, the generation immersed in environments permeated by ICT, whose dexterity and familiarity have become quite common, shows dependence on resources for locating and selecting information, as Sanches (2016) points out:

> Although young people demonstrate an apparent ease and familiarity with computers, they rely heavily on search engines, view information superficially instead of reading it, and lack the critical and analytical skills to evaluate information found on the Internet. In short, it is evidence that contradicts the usual assumption that the "Google Generation" is web-literate, that is, the most web-literate. (SANCHES, 2016, p. 165)

Helping information users to research, select and use information critically and reflectively will bring benefits that will impact lifelong learning. Thus, studies dedicated to this approach -information literacy- represent not only a demand of today's society, but also express a concern in the development of actions that can insert LI in the field of education and learning for life in a context of technological advances unprecedented in human history.

In fact, the LI refers to a personal ability and must be part of the diverse contexts of training in specific areas of knowledge where the information universe is worked, i.e., where there is a need for the development of critical thinking and selectivity for the proper use of information, and also the processes of socialization of new generations to promote a degree of participatory and responsible citizenship. Since digital literacy does not guarantee the formation of more integrated citizens, the mastery of skills developed through informational literacy can ensure the citizen greater critical capacity, interactive and intervening in society, also enabling the generation of new knowledge for effective adequacy and autonomy in their decisions.

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