University libraries fighting fake news: an analysis of the knowledge and practices of Portuguese librarians

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Abstract. *Problems with fake news are an emerging subject that has been debated in many sectors of society. Libraries are no exception, and particularly university libraries have been taking a stand against this new reality and seeking to combat it, especially through information literacy training programs. Several studies have already concluded that training that soaks critical thinking in the use of information can benefit users; it enables them to strengthen their strategies for distinguishing informational truth from fake news, misinformation, deceived, or misleading information. Inspired by research carried out in Spain, this study seeks to understand what knowledge Portuguese librarians have about this subject and what strategies are being prepared or implemented by academic libraries in Portugal to combat fake news and misinformation. For this purpose, a questionnaire is applied and addressed to the 172 Portuguese academic libraries registered in a national directory of libraries. The questionnaire comprises data aggregated in four sections: library identification; characterization of knowledge about the subject; good practices in the fight against fake news; and a final open question. Seventy-three libraries answered, representing 43% of the universe under analysis. The results show a thorough knowledge of the issue by librarians, but still incipient actions regarding practices that directly address the fight against fake news, through information literacy training.*

Keywords: Information literacy, academic libraries, fake news, disinformation, Portugal.

Introduction

In recent years, the subject of fake news has become a constant in our daily lives. Newspaper pages and social media include forged news that is later denied. Even in the academy, similar phenomena happen when articles are submitted and later retracted. The social commotion generated around this phenomenon is huge: there is an impact on politics, on the economy, on society, and above all, on the lives of individuals who are the target of fallacies or lies, and whose damage caused goes beyond the most negative predictions. Today there is already a sensitivity for the fight against disinformation to be a priority in democracies and, as such, several social agents are beginning to raise their voices in this regard. In fact, in August 2018, the

International Federation of Libraries Associations (IFLA) expressed its deep concern about the disproportionate public impact that the phenomenon of fake news has taken on in the face of freedom of expression and access to information (IFLA, 2018). Therefore, a further statement reinforces the commitment, always assumed by IFLA, on freedom of access to information and freedom of expression. It is clear that any restriction on this freedom, by censoring or blocking access to digital resources and the Internet, must be limited, despite the danger posed by accelerated deregulation. Academic libraries are located on the frontier of creating new knowledge, bridging the gap between the production and dissemination of information and the public, namely students, teachers, and researchers. The question that arises is how has their performance been facing this phenomenon? The aim of this work, based on a survey launched to the community of academic libraries in Portugal, is to describe and explain which strategies and practices are being considered and implemented given this problem, and some actions to adopt in the future by the academic libraries.

Literature review

Since the beginning of the century, problems with the truth and fallacy on the Internet have become evident, and the concern has increased in recent years. Due to negligence, innocence, or lack of preparation by citizens, particularly internet users, inaccurate data can trigger different dangers, affecting health, privacy, investments, business decisions, online shopping, and even legal matters. The Internet has become a sea of dangerous navigation due to the number of false truths, misinformation, misleading or erroneous information, in a multitude of forms and disguises (Mintz, 2002). New lies and camouflages emerge every day and are used to deceive the most unsuspecting, namely concerning digital identity theft, hatred, religious and racial intolerance, fraud in e-commerce transactions, cybersecurity issues, political fraud, charity, among others (Mintz, 2012). Thus, preventive behavior in the face of these risks is increasingly important and urgent.

Fake news is not a new phenomenon: Pulitzer used sensational headlines and George Orwell, in *1984*, reported the destruction of documents by party leaders to eliminate evidence of lying (Barton, 2019). But the current method seems to be more efficient: creating alternative realities, with a factual basis, and instead of destroying facts, a story is made. This is continually repeated until it is interpreted as real and presented as a product of information technology. Artificial intelligence is now used for these purposes with great success, with the fabrication of texts and images, overlapping voices, and video changes in an automated way. The result of which is very difficult to distinguish from a reliable source. How to intervene to change the panorama? It is important to know that the spread of false or true news has the same speed or promptness when analyzing social networks and their impact on the dissemination of information. However, the human element alters this equation: "false news spreads farther, faster, deeper, and more broadly than the truth, because humans, not robots, are more likely to spread it" (Vosoughi et al., 2018, p. 1148). This finding reveals an important clue: educational interventions can be carried out to change this reality, raising awareness and training users of information in its good use.

The attention is given to this issue also illustrates a natural flow between the themes of civil society and academia. In the scientific world, the search for information is an unavoidable need. And the Internet is not enough when researching, because research is based on reliable, complete, and credible information and data. Open Science has provided an expansion of research territories, providing a more adequate response to these needs. By releasing data and information from a restricted sphere to the public

sphere and circulating a greater amount of knowledge, it enhances the use of science by broader ranges of the public. At the same time, if the search for information does not have its borders so well defined, navigation can occur in risky digital contexts, revealing itself to be a particularly sensitive issue (Jasanoff, 2016). Social networks are more conducive to these occurrences and have, moreover, been a source and object of investigation.

The questions that arise for educational institutions, especially those of higher education, are thus very wide: it is necessary to enable people to navigate the Internet safely, but it is also essential to teach them how to filter the contents that will use or place and make available to others, because the Internet has become the preferred resource for searching information in an academic environment, once students prefer information housed in resources that are easy to locate and access, rather than privileging quality criteria information (Cid-Leal & Perpinyà-Morera, 2015), (Romero-Rodríguez et al., 2015). Additionally, it is important to provide this kind of education because any citizen has become an author, with access to means of digital creation that easily spread any news, real or not. And additionally, populist citizens assume that public opinion is congruent with their own opinion and that mainstream media reporting is hostile toward their views (Schulz et al., 2020). This is why the European Commission (European Commission, 2018) considers misinformation to be a powerful tool of influence, inexpensive, and often cost-effective. Because misinformation undermines trust in traditional and digital institutions and media, the European Commission intends to develop critical and digital information literacy skills, especially for young people, to strengthen society's resistance to misinformation.

In this line, several studies reinforce the role of information professionals and libraries [(Fontanin, 2018), (Gilchrist, 2018), (Rose-Wiles, 2018)], explaining that training actions should be carried out for the development of assessment skills for information sources, and for the development of critical thinking (Connaway et al., 2017), (Leeder, 2019). Moreover, it seeks to recommend that libraries develop, implement, and update the concepts of information literacy over the years (Finley et al., 2017), to develop several strategies that seek to solve these difficulties (Antunes et al., 2019), (Caridad Sebastián et al., 2018).

In the case of higher education, the target audience is mostly students. These, in general, are competent communicators on social networks but are unaware of the potential for manipulation. For this reason, libraries have developed several projects and initiatives to ensure the training of students and researchers and to awaken the necessary care in research and information analysis (Antunes et al., 2021). Examples of this are LibGuides, such as Indiana University East 'Fake news LibGuide (https://iue.libguides.com/Fakenews) and University of Washington Libraries' Evaluating Information: fake news LibGuide (https://guides.lib.uw.edu/research/evaluate/fakenews), providing students with the necessary resources and a plan to verify the sources before using them, but also the IFLA infographic *How to spot fake news* (IFLA, 2021) which, visually and graphically, presents a strategy for analyzing information sources.

The literature review points out that the library-teacher collaboration and information literacy activities that take place will not have the capacity to remain in time, and therefore require more flexible models to spread the sources through self-regulated teaching [(Finley et al., 2017), (Caridad Sebastián et al., 2018), (Batchelor, 2017)-(Rochlin, 2017)].

But what has been done concretely in Portugal? It is important to face these challenges and develop strategies in information literacy to combat fake news. Students, teachers,

and researchers must know what information they need, be able to identify what they are looking for, recognize the conditions under which information can be reused ethically, as well as the destination it will have, and distinguish between knowledge, opinion, and comment. And these issues can be tackled by training these information users, giving priority to intervention in higher education. The mobilizing question for this study is: Are Portuguese librarians currently designing strategies, new practices, and implementing solutions?

Methodology

To understand the extent to which the fight against fake news is being carried out, namely through the knowledge and implementation of training strategies by academic libraries, the search for evidence is essential. Thus, a survey inspired by research carried out in Spain (Martinez-Cardama, 2019), was sent to librarians. This makes it possible to study this process and to draw conclusions about the ideas, knowledge, commitment, and strategies of Portuguese librarians, which will reflect benefits for users. In this quantitative study, we chose to distribute a survey to a convenience sample obtained from the universe of the 176 Portuguese academic libraries (registered in the BAD Directory, at https://www.bad.pt/diretorio). By reading the results we intend to understand, on the one hand, the extent to which librarians know the concepts around fake news and, on the other hand, to what extent this same knowledge is converted into strategies and practices applied in teaching and training to the users of libraries.

The questionnaire, adapted from the cited study (Martinez-Cardama, 2019) is mixed and self-administered, divided into four parts, and composed of nine open and closed questions. The response format is dichotomous and multiple. It concerned library identification; characterization of knowledge about the subject, and good practices in the fight against fake news and so was divided into four parts (Table 1).

Table 1. Information Literacy: reference documents for teaching models

Questionnaire sections	Evaluation scope
1. Perception of false news and validity of the mechanisms that exist to combat them	1.1. Do you believe, as the Director/Head of the Library, that libraries can play a role in the fight against false news? 1.2. From what techniques or activities do you believe that the phenomenon of disinformation responsible for information bubbles and false news on the Internet could be solved?
2. Risks regarding verification of information academic by the students	2.1. Do you consider that this problem affects both news in the media and scientific information? 2.2. Do you believe that social networks enhance the dissemination of non-validated scientific information? 2.3. Do you believe that academic students can be affected at the academic level by the difficulty in identifying the veracity of the information? 2.4. Do you consider that media and information literacy can be a method of combating false news? 2.5. What media and information literacy resources should the Library make available to combat false news?
3. Present and future initiatives	3.1. Does your institution's library plan any activities in this regard? 3.2. If so, what resources are being made available?
4. Open question	4.1. An opinion, a comment, or a suggestion.

Source: Authors' own research contribution

Results and Discussion

The discussion of the results presented below reveals the position of Portuguese academic librarians in combating false news. Therefore, the answers are presented in alignment with the questionnaire and allow an overview of the librarians' vision and strategies on the subject. Seventy-three libraries answered, representing 41.5% of the universe under analysis. Table 2 shows the universe benefitting from the resources of the libraries under study.

Table 2. University Libraries in Portugal and respondents

Identification	Universe	%	Answers	%
Public University Teaching	71	40.3	38	52.0
Private University Teaching	27	15.3	12	16.4
Public Polytechnic Education	51	29.0	18	24.7
Private Polytechnic Education	25	14.2	4	5.5
Military and Police Education	2	1.2	1	1.4
TOTAL	176	100	73	100

Source: Authors' own research contribution

Seventy-one (97%) respondents believe, as a director/head of the library, that libraries can play a role in the fight against false news. Therefore, it is clear that there is a widespread perception of assuming an intervention role by academic libraries in Portugal.

Analyzing from what techniques or activities do they believe that the phenomenon of disinformation responsible for information bubbles and false news on the Internet could be solved, there are several answers (Fig. 1).
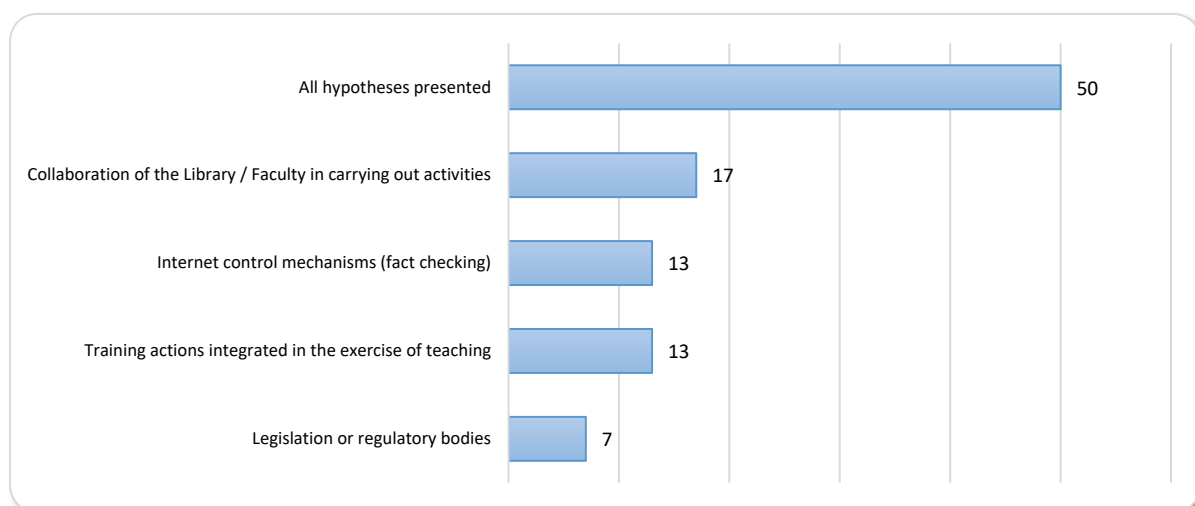

Fig. 1. Answers to the question «From what techniques or activities do you believe that the phenomenon of disinformation responsible for information bubbles and false news on the Internet could be solved?» (percentage values). (Source: Authors' own research results)

Half of the respondents consider this problem as a complex reality that cannot be

approached with a single line of action, so all the hypotheses presented must be considered valid in the fight against fake news. As for the other half, the answers are divided, with emphasis on collaboration between librarians and the faculty in carrying out joint activities. These ideas underline the conclusions of some studies (Bonnet & Rosenbaum, 2020) that support an effective partnership between teachers and librarians, particularly when they develop joint training activities for the development of critical thinking in the face of fake news. Internet control mechanisms (fact-checking) and training actions integrated into the exercise of teaching are the answers that librarians consider next, with legislation or action by regulatory bodies being the least considered. The responses given by those responsible for academic libraries are in line with international literature and reports, such as that of the European Commission (European Commission, 2018), by considering laws or regulations as the least suitable options.

Asked whether they believe that this problem affects both media news, and scientific information, 92% of respondents answered affirmatively. Ninety-nine percent also believe that social networks enhance the dissemination of non-validated scientific information and that academic students can be affected, at the academic level, given the difficulty in verifying the veracity of the information (Fig. 2). In response to the question "Do you consider that media and information literacy can be a method of combating false news?" the totality of respondents affirmatively considers the importance of training in information and media literacy.
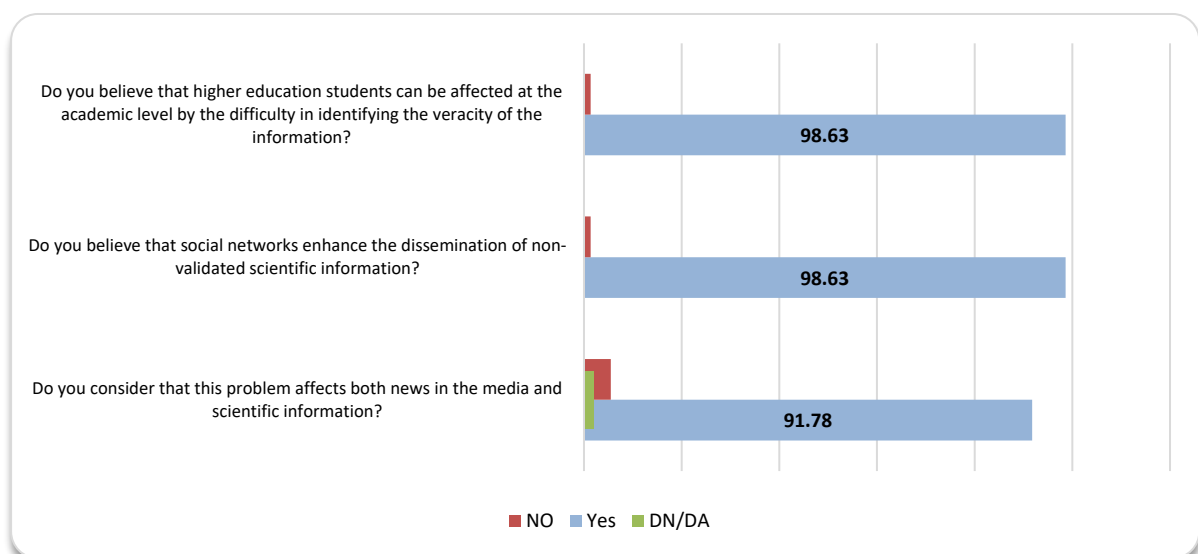

Fig. 2. Answers to the questions: «Do you consider that this problem affects both news in the media and scientific information?»; «Do you believe that social networks enhance the dissemination of non-validated scientific information?»; and «Do you believe that academic students can be affected at the academic level by the difficulty in identifying the veracity of the information?» (percentage values) (Source: Authors' own research results)

The study based on the survey carried out in Spain (Martinez-Cardama, 2019), highlights the mediation role developed by academic libraries as a gear to combat disinformation, as their performance reaches vast communities and affects scientific communication itself. The authors defend an action that involves librarians in training (information and media literacy), but also in the verification (as a fact-checker) of scientific information disseminated through social networks, in close collaboration with

teachers. Already in 2018, UNESCO (UNESCO, 2018) expressed its concern about this viral phenomenon of fake news by publishing the Journalism manual 'fake news' and disinformation. This document explores the nature of journalism itself and critically reflects on digital technology and social media platforms as vectors of information disorder behaviors, appealing to the need for synergies between communication and information professionals to combat the manifest manipulation of opinion on social media platforms emerged as a critical threat to public and democratic life (UNESCO, 2018).

The importance of the various media literacy and information resources that libraries can use to combat fake news was then analyzed. Within these multiple answers, several options can be selected. The training in reliable sources of information and the selection of specialized databases stands out (Fig. 3). The realization of courses, seminars or workshops, guidance tutorials, and the organization of thematic guides for the dissemination of validation tools are initiatives considered a second line option.

The study by Musgrove, et al. (Musgrove et al., 2018) supports and aligns itself with these responses, since it considers that academic students are particularly vulnerable to fake news because it is from social networks that receive most of the information online and because they were born in the time of the World Wide Web, and librarians and teachers should help them to build solid information literacy skills, reinforcing critical thinking skills.
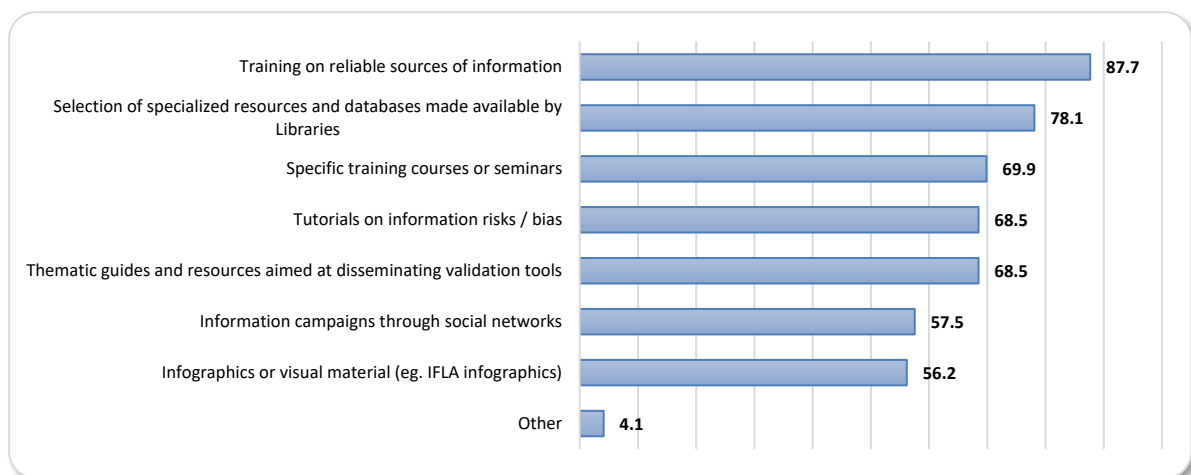

Fig. 3. Answers to the question «What media and information literacy resources should the library make available to combat false news?» (percentage values) (Source: Authors' own research results)

Approaches and practices such as these were previously investigated (Antunes et al, 2019; Martinez-Cardama & Algora Cancho, 2019), highlighting the training strategies that underlie the concern of information professionals regarding the growth of fake news and the need to intervene with their communities, in a precise and pedagogical manner.

Asked whether their libraries foresaw any activity with their community to combat fake news, respondents split up (Fig. 4) and some responded that it is a subject still under study.
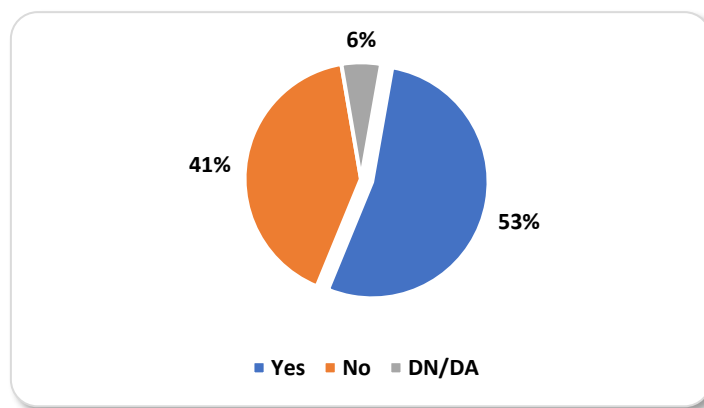
Fig. 4. Answer to the question «Does your institution's library plan any activities in this regard?» (Source: Authors' own research results)

Invited to disclose which initiatives are being developed by their libraries, the respondents presented varied suggestions, highlighting the classroom training sessions, in collaboration with the teachers, but also integrated into the academic curriculum; individualized support for students to identify reliable and scientifically reliable resources; the dynamization of graphic materials, especially for IFLA infographics (IFLA, 2021); the use of social networks to create alerts to fake news; and the partnership that can be established with secondary schools to ensure earlier awareness and training.

Finally, when asked to leave an opinion, comment, or suggestion, in the open question, most respondents highpoint the need to share materials on the topic amongst libraries, to guarantee higher quality performance. Some regret that, due to an organizational decision, their library does not use social networks, as a space for dissemination and sharing; they consider that it is on these platforms that, despite the informality and the most basic level of the content presented, one should bet and operate more constantly. Other respondents point out that there is no space in the school calendar where they can intervene. They also consider that academic libraries can play a very relevant role in civil society if they combine their resources and knowledge with other bodies, such as municipalities and parishes, with the motto of jointly being able to better enlighten populations. The majority of those who answered this questionnaire also urged students to attend libraries.

Conclusions

Even with some limitations, this study sought to comprise the positioning of Portuguese academic libraries in the face of fake news. To this end, after framing the subject, a survey was launched that questioned head librarians about their knowledge of the theme, as well as about their practices to deal with it. Most responses are in line with the study of Spain, also concluding that the Portuguese academic libraries know international trends, and even training strategies, but their practices are still incipient. This means that despite being aware of the issue, librarians seem to still be unsure about the actions to be taken, particularly with academic students, to contribute to their training in combating fake news. Given these perceptions of librarians about the need for action, it seems important that, in higher education, students are exposed to real information and false news, to learn to evaluate the information they will find outside the classroom, in an extra-educational context. The objective is to produce proactive thinkers, researchers, and consumers of information that they identify and surpass as false news and its harmful effects. But these actions must be developed in a controlled

environment, with concrete measures, based on thoughtful training strategies, especially in conjunction with teachers. The teaching of strategies for detecting fake news among academic students can restrain its dissemination. That is why the work of librarians, with a proximity character, should be valued.

The results shown reinforce the importance of studies like these, which, in addition to portraying reality, contribute to making aware of the options that exist for librarians to promote implemented and already recognized strategies, such as information literacy training, in combating false news: training activities, dissemination activities, audiovisual activities (YouTube), and information activities or digital reference about the credibility of sources. We can conclude that there should be a more flexible collaboration between libraries and teachers for the joint definition of activities that can help students from a self-regulation perspective. On the other hand, teachers and researchers are also exposed to the dangers of misinformation, victims of predatory journals, and misleading metrics.

Finally, and in the spirit of the IFLA Statement on Fake News (IFLA, 2018), the commitment of academic libraries and their professionals is always to strengthen their advocacy role in defending the importance of freedom of expression and freedom of access to information.

Notes. Questionnaire available through the following URL:
https://forms.office.com/Pages/ResponsePage.aspx?id=jLt1jkQiC0mHbsmp_LLvY7bUgy_BzZZLiBAXTbm9Gs9UMk1YVjdUWE4wT1JGRFhQUVZYVU1LRlNSSS4u

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