Content studies

Reception studies

“the very short history of disinformation research” (Freelon & Wells, 2020, p. 146)

“more extensively studied conceptual relatives: propaganda and misinformation.” (Freelon & Wells, 2020, p. 146)

we preview the seven articles in this issue, which we divide into two types: studies of disinformation content and of disinformation reception. (Freelon & Wells, 2020, p. 146)

“fake news,” “misinformation,” “disinformation,” “media manipulation,” “coordinated inauthentic behavior,” and “propaganda.” (Freelon & Wells, 2020).

**“problematic information” (Giglietto, Iannelli, Valeriani, & Rossi, 2019; Jack, 2017; Molina, Sundar, Le, & Lee, 2019).**

Disinformation – Inaccurate or manipulated information content that is spread intentionally. This can include false news, or it can involve more subtle methods such as false flag operations, feeding inaccurate quotes or stories to innocent intermediaries, or knowingly amplifying biased or misleading information. Disinformation is distinct from misinformation, which is the inadvertent or unintentional spread of inaccurate information without malicious intent. (Weedon, et al., 2017: 5)

**Definitions:**

We provisionally define disinformation, to be elaborated below, as the following: *intentional falsehoods spread as news stories or simulated documentary formats to advance political goals.* (Bennett & Livingston, 2017, p. 124)

(Bennet and Livingston, 2018)

**High Level Expert Group on Fake News and Online Disinformation:** “Disinformation . . . includes all forms of false, inaccurate, or misleading information designed, presented and promoted to intentionally cause public harm or for proﬁt” (High Level Expert Group, 2018, p. 3).

This deﬁnition unites three critical criteria: 1) deception, 2) potential for harm, and 3) an intent to harm. It thus excludes deceptive messages that may cause harm without the disseminators’ knowledge (misinformation) and non-deceptive messages intended to harm others (e.g. slurs based on racial, sexual, or

Of course, none of this content is entirely new, but it is newly salient, and the digital age has changed how such messages are created, circulated, and interpreted, as well as their potential eﬀects. **The fear that messages of dubious provenance and truth value may subvert the “proper” functioning of democracy (however that is understood) has motivated governments, citizens, and scholars to try to understand and combat the phenomenon.**

**Our search results, including the citations from all libraries, identified eight primary studies where taxonomical frameworks were proposed (Table 1/[1]–[8]).**

Considering that false information has not only attracted the interest of the academic community but also of experts in various fields such as communication and journalism, as well as authorities and institutions, we decided to conduct additional research on the web, applying the same query into popular search engines. Therefore, sources that did not belong to the main scientific libraries (Google Scholar, Scopus, etc.) were examined, including national research studies, university initiatives, and international organizations reports. In this step, **we identified 15 more references, two of which met our criteria (Table 1/[9] and [10]).** Finally, these 10 references were assessed for eligibility in RQ2. In Figure 3, we illustrate the process of our initial search conducted in the libraries. Figure 4 presents in detail the selection process of both records found through database searching and records identified by other sources.

Our goal toward a common effort to avoid concept fragmentation has been to define a logical, consistent, and structured way to list the types of false information.

Intention to deceive/mislead cannot be assessed as potential dimension as, by definition, all kind of disinformation types is created to harm or mislead the receiver of the information (Kapantai, et. al., 2020, 15).

There is no commonly agreed typology framework, specific categorization criteria, and explicit definitions as a basis to assist the further investigation of the area. (Kapantai, et. al., 2020, p. 1)

For instance, the definitional approach suggested by Ashrafi-rizi and Kazempour (2020) may be regarded as a useful topology but not a valid taxonomy. 3

Given the newness of the COVID-19 infodemic, clarity is lacking about the logical differ- ences between the concepts of mis-, dis- and malinformation (Søe 2018). To date, first-order thinking published in peer-reviewed journals has tended to focus on the COVID-19 infodemic as a problem caused by the sharing of “misinformation,” that is, “unintentionally false infor- mation” (Pennycook et al. 2020; Legido-Quigley et al. 2020; Garrett 2020; Mian and Khan 2020). At the periphery, a handful of commentators have argued that the real problem is not just unintentional falsity but the dissemination of “disinformation,” that is, “deliber- ately misleading information” (French & Monahan 2020; McCloskey and Heymann 2020). A fact sheet recently published by the Reuters Institute at the University of Oxford suggests that“malinformation,” that is, “reconfigured true information,” may also be an important but overlooked phenomenon in the current crisis (Brennen et al. 2020). Although mis-, dis- and malinformation are candidates for being classed as false information, the current situation suggests that the terms need clarifying and defining in operationally useful ways. Moreover, an appropriate taxonomy (that is, a scientific classification) is urgently required to support high-quality research and evidence-based action (Marradi 1990).

Taxonomy development is a complex process that has not always been adequately ad- dressed in the information systems literature, often leaving classification systems to be de- veloped informally using ad hoc methods (Nickerson, Varshney and Muntermann 2013). The problems posed by the COVID-19 infodemic suggest that a formal process of taxonomy cre- ation is required. However, the complexity of issues involved in labelling COVID-19 data as false suggests that the development process will require multidisciplinary thinking, as it may not be possible to create the necessary theoretical framework from one discipline alone (Miles and Shipway 2020). In such situations, where a single theory cannot be founda- tional, Imenda (2014) suggests that researchers should develop a “conceptual framework” that synthesizes several theoretical perspectives into a structure that represents diverse ways of seeing. However, to be successful, conceptual frameworks must be limited in their scope to specific research problems and/or contexts, which implies that COVID-19 should be treated as a special case.

Reception Studies

In relation to political polarization

Tucker, J. A., Guess, A., Barberá, P., Vaccari, C., Siegel, A., Sanovich, S., ... & Nyhan, B. (2018). Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature.

(Valverde-Berrocoso, González-Fernández, Acevedo-Borrega, 2022).

RQ1. What is the conceptual network around the terms ”fake news”, ”disinformation”, ”misinformation” and ”literacy” that is extracted from the literature?

To analyze the network of concepts, a series of clusters generated by the co-occurrence of keywords in the articles, were identified. A first cluster, in green color, identifies the concept of ”fake news” and its relationship with ”post-truth”, ”fact-checking” or ”pedagogy”. The blue cluster includes the concepts of disinformation (“disinformation” and “misinformation”) and their links to informational and news literacy. The red cluster brings together the concepts of ”critical thinking” and their relationships with ”deception”,

”teaching methods” or ”librarians”.

The systematic review is distributed, according to the Q level of the journals, as follows: 27.6% are in quartile 1 (Q1), 23.7% in Q2, 19.7% in Q3 and 14.5% in Q4. A total of 11 articles (14.5%) belong to journals not indexed in Wos or Scopus that were incorporated from ERIC. 40.7% of the articles deal with media literacy, 39.5% with information literacy and 14.4% with news literacy. Digital literacy is a central theme in 4% of the articles reviewed. Data literacy is identified in one article (Q1).

Freedom of expression is a fundamental value of open democratic societies. The information received by citizens must be varied and verifiable to enable them to form an opinion on the issues that affect them in their lives. However, the deliberate, large-scale and systematic spread of disinformation seriously endangers democracy and poses a huge challenge to education systems. The European Union has drawn up an “Action Plan against Disinformation” and determined, as one of its pillars, to increase the awareness and capacity of society to respond to this phenomenon. This involves improving the literacy of citizens to understand how to detect and counteract misinformation (European Commission, 2018). The most effective way is to promote “Media and Information Literacy” (MIL), which includes a set of skills recognized by UNESCO as essential for the participation of citizens in the current media environment (Wilson et al., 2011). The Council of Europe has advised ministries of education to create an internationally standardized curriculum on information literacy for all ages, including critical assessment of information sources, the influence of emotion on critical thinking and the implications of algorithms and artificial intelligence (Wardle & Derakhshan, 2017). In the academic field, various studies have highlighted the educational shortcomings of students in dealing with disinformation (Breakstone et al., 2021; Herrero- Diz et al., 2019; Johnston, 2020).

It is necessary to know what educational models have been developed to empower citizens against disinformation. A systematic review of the literature (2011-2020), following the PRISMA protocol, was carried out by analyzing articles (n=76) extracted from three databases (Wos, Scopus and ERIC). Reference management and text mining software was used to data analyse. Eight research questions were answered on the conceptual framework, bibliometrics characteristics and pedagogical dimension. From the results of the content analysis emerges a vision of the role of multiliteracies in educational research and the problem of disinformation: media and information literacies are the most relevant and news and data literacies are incorporated. The need to adopt interdisciplinary approaches is confirmed. From the results of the educational dimension, three pedagogical approaches are identified: strategies for competencies development; focused on content and education for citizenship. Workshops and lesson plans are the most common teaching practices. The development of critical thinking, experiences in the co-construction of knowledge, and the values of civic education are fundamental against disinformation.

Phase 4: Study selection process. The initial search resulted in 280 articles, of which 74 were

duplicates. All the researchers analyzed the 206 articles based on the title and abstract, according to the inclusion-exclusion criteria. After consolidating the results, 186 articles were excluded. The remaining 94 were analyzed independently by researchers, in full text, in a second selection process, resulting in the agreement to exclude 20 articles. The snowball method was applied to citations included in the 74 selected articles and 2 articles were added that completed the final sample of documents for systematic review (n=76).

* Phase 1: Research Questions (RQ). They are organized around three areas: (a) Conceptual framework, to analyze the relationships between key words identified in literature (RQ1); (b) Documentary characteristics, to identify themes, geographical location, Q levels of journals and research methodologies used (RQ2-RQ5); and c) Pedagogical dimension (RQ6-RQ8), to recognize the educational levels, areas of knowledge, pedagogical approaches, teaching practices and teaching tools in the analyzed studies.
* Phase 2: Eligibility criteria and sources of information. This includes English or Spanish articles published in scientific journals between January 2011 and December 2020, containing in their title the concepts of “fake news”, “disinformation” or “misinformation”, abstract or keywords or the term “literacy”. Theoretical and empirical studies with quantitative or qualitative methods are also included. The exclusion criteria applied involves articles that do not develop educational research related to informational, media, digital, data or news literacy. Articles whose purpose is the presentation of special issues were also excluded.
* Phase 3: Search strategies. The Web of Science (Wos), Scopus and ERIC databases were used for the selection of articles. In each database, the keywords “fake news”, “disinformation”, “misinformation” and “literacy” were used and the search was limited to the established time frame of 10 years. The search syntax is included in the coding sheet (https://bit.ly/3BycHZT).
* Phase 4: Study selection process. The initial search resulted in 280 articles, of which 74 were duplicates. All the researchers analyzed the 206 articles based on the title and abstract, according to the inclusion-exclusion criteria. After consolidating the results, 186 articles were excluded. The remaining 94 were analyzed independently by researchers, in full text, in a second selection process, resulting in the agreement to exclude 20 articles. The snowball method was applied to citations included in the 74 selected articles and 2 articles were added that completed the final sample of documents for systematic review (n=76).
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* ”teaching methods” or “librarians”.
* • RQ1. What is the conceptual network around the terms “fake news”, “disinformation”, “misinformation” and “literacy” that is extracted from the literature?

1.2. Multiple literacies

Selber (2004) understands digital technologies as interwoven artifacts within the social context and consequently, their use requires an understanding of the rules governing human communication. He believes that critical thinking is a logical extension of functional skills and that students must perceive digital tools as cultural products to become critical users of technology. In order to achieve this objective, the key perspectives that shape design and technological cultures must be understood, as must the intrinsic relationship between digital infrastructures and contextual factors of a political, economic and educational nature. Multi-literacy encourages students to apply their functional and critical skills to become reflective media consumers and producers (Damasceno, 2021). Different types of literacy have been conceptualized.

”Media literacy” is the ability of a citizen to access, understand, analyze, and evaluate media information, as well as to produce information for a specific purpose, in various formats (image, sound, text). Its objective is to train informed and autonomous citizens who question the information they receive (Jones-Jang et al., 2019).

”Informational literacy” is the ability to think critically and make argued judgments about any information. Citizens must be empowered to obtain and express an informed vision of reality (CILIP, 2018). “News Literacy” incorporates an understanding of the role of news in social context, the ability to find, critically evaluate and produce news, as well as the underlying reasons for its consumption (Kajimoto & Fleming, 2019). “Data literacy” training enables the use of data generated in digital practices and includes data identification, understanding, reflection, use and tactics (Pangrazio & Selwyn, 2019). “Digital literacy” refers to a competence in the adequate use of digital tools and devices to identify, access, manage, integrate, evaluate, analyze, and synthesize digital resources, build new knowledge and communicate with others in specific situations and reflect on this process (Martin & Grudziecki, 2006). Via multiple avenues, students must develop “critical literacy” skills necessary to navigate the digital world and question the information they find online. The aim of this study is to investigate the current educational response to the phenomenon of disinformation through the results of research conducted over the last decade. (Valverde-Berrocoso, González-Fernández, Acevedo-Borrega, 2022).

Disinformation literature … Disinformatoin is not entirely new, but it is newly saliant. **Digital media revolution. Russia, 2016.**

**Citations on Google scholar.**

**Scholarship**

**The phneomena of disinformation is in this notext is new.**

**There is consensus on little more than fundamental defitions.**

**The study of disinformation is interesting in that it is a relative new body of scholarship with consensus on little more than fundamental defitions. This shortcoming is the topic of**

**…Literature reviews, .attampts to build conceptual frameworks, etc. Thus,**

**As a a body of scholarhip , it is at an interesting grappling with the lack of a**

More research on the effects of disinformation. (Freelon & Wells, 2020, p.)

The study of disinformation

**Research gaps:**

**Data needs,**

This shortcoming has been a guiding thing for emerging disinformationm research. Much of the emerging research is devoted reviews of the literature, taxonomy, conceptual models,

Number of reviews published in last two years. A body of literature in serch of a concensus, convergence. The proportion of articles devoted to litrtature reviews in the last two years imply a body of literarture undergoing self-examinati0on, Common frame of reference.

**Although there is no concensus on how to sturdy disinofmraiotn, the literature does converge around a common set of questions.**

With respect to our colleagues, we advocate against uses ofthis term to refer to concepts of theoretical relevance. We argue that its use by Trump and hisfollowers to delegitimize unfavorable news coverage has stripped it of any analytical value itmay have once held.

Common set of questions:

Policy responses.

Effects.

What is the threat to democracy?

Causes.

Constructtiojn of conceptual frameworks/models.

Ooperationalize the disinofromatiopn system

**Google Scholar: A body of literature …. Numerous disciplines?**

ndergoing Self examinatiomn

Reviews, taxonomy, conceptual model, empirical, data, data needs,

**Two taxonomies…**

**Fact checking**

What is the relationship between political polarizartion? Does political polarizartion impact policy making? (Tucker, et. al., 20189)

2415 papers published with ‘disinformation’ in the title since 1980. The

If I did that from the start, data would have less missingness

Post-truth society….

“the deﬁning political communication topic of our time” is a constellation of media genres, namely “fake news,” “misinformation,” “disinformation,” “media manipulation,” “coordinated inauthentic behavior,” and “propaganda.” Indeed, we argue that this constellation is the deﬁning political communication topic of our time, given the massive media attention, reams of scholarship, and unprecedented funding opportunities devoted to it.

Tucker, J. A., Guess, A., Barberá, P., Vaccari, C., Siegel, A., Sanovich, S., ... & Nyhan, B. (2018). Social Media, Political Polarization, and Political Disinformation: A Review of the Scientific Literature.

Kapantai, E., Christopoulou, A., Berberidis, C., & Peristeras, V. (2021). A systematic literature review on disinformation: Toward a unified taxonomical framework. *New media & society*, *23*(5), 1301-1326.

Tucker, J. A., Guess, A., Barberá, P., Vaccari, C., Siegel, A., Sanovich, S., Stukal, D., & Nyhan, B. (2018). Social media, political polarization, and political disinformation: A review of the scientific literature.

Baines, D., & Elliott, R. J. (2020). Defining misinformation, disinformation and malinformation: An urgent need for clarity during the COVID-19 infodemic. *Discussion papers*, *20*(06), 20-06.

Freelon, D., & Wells, C. (2020). Disinformation as political communication. *Political Communication*, *37*(2), 145-156.

Bennett, W. L., & Livingston, S. (2018). The disinformation order: Disruptive communication and the decline of democratic institutions. *European journal of communication*, *33*(2), 122-139.

Kapantai, E., Christopoulou, A., Berberidis, C., & Peristeras, V. (2021). A systematic literature review on disinformation: Toward a unified taxonomical framework. *New media & society*, *23*(5), 1301-1326. https://doi.org/10.1177/1461444820959296

**High Level Expert Group on Fake News and Online Disinformation. (2018). *A multi-dimensional approach to disinformation: Report of the independent high level group on fake news and online disinformation*. Publications Office of the European Union.**

**Valverde-Berrocoso, J., González-Fernández, A., & Acevedo-Borrega, J. (2022). Disinformation and multiliteracy: A systematic review of the literature. *Comunicar*, *30*(70), 97-110.**

**Weedon, J., Nuland, W., & Stamos, A. (2017). *Information operations and Facebook*. Facebook, Inc.**

**Weedon, J., Nuland, W., & Stamos, A. (2017). Information operations and Facebook.**

**Literature reviews:**

**Valverde-Berrocoso, J., González-Fernández, A., & Acevedo-Borrega, J. (2022). Disinformation and multiliteracy: A systematic review of the literature. *Comunicar*, *30*(70), 97-110.**

**Chandra, Y. U., & Maydian, N. (2021, August). Factors Influencing Disinformation on Social Media: A Systematic Literature Review. In *2021 International Conference on Information Management and Technology (ICIMTech)* (Vol. 1, pp. 287-291). IEEE.**