

**Newsnet #4**

# ***The Challenge of Artificial Intelligence for Journalism***

**Bilbao, November 10th, 2023**



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**Simón Peña-Fernández,  
Koldobika Meso-Ayerdi &  
Ainara Larrondo-Ureta  
(Eds.)**



Universidad  
del País Vasco

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# THE CHALLENGE OF ARTIFICIAL INTELLIGENCE FOR JOURNALISM

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Simón Peña-Fernández  
Koldobika Meso-Ayerdi  
Ainara Larrondo-Ureta

(Eds.)

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Irati Agirreazkuenaga-Onaindia, Maider Eizmendi-Iraola, María Ganzabal-Learreta, Ainara Larrondo-Ureta, Terese Mendiguren-Galdospin, Koldobika Meso-Ayerdi, Julen Orbegozo-Terradillos, Simón Peña-Fernández, Jesús Ángel Pérez-Dasilva

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## Preface

The emergence of generative artificial intelligence applications has triggered great interest in all areas of media studies. Its presence seems definitive and, although its rapid evolution makes it difficult to anticipate the way in which it will affect the media, it seems clear that it will transversally affect all its areas, from the production to the distribution of contents.

The application of AI is perceived, on the one hand, as an opportunity for the media to reduce production costs that facilitate their viability or as tools that free journalists from more mechanical tasks. But, on the other hand, there is also a perceived risk of increasing the precariousness of journalists' work and reducing the number of jobs. For audiences, having this new technology at hand is accompanied by new opportunities, such as greater personalization of content, but also threats, such as the presence of biases, the increase in existing gaps or an increase in the risk of misinformation.

The Newsnet #4 seminar took place at the University of the Basque Country (UPV/EHU) on November 10, 2023 and sought to find answers to understand the impact that the incorporation of artificial intelligence will have in the media, particularly in aspects such as misinformation or the impact on journalists and their audiences.

This report includes some of the research results of the projects *Impact of artificial intelligence and algorithms on online media, journalists and audiences* (PID2022-138391OB-I00) and *Automated counter narratives against misinformation and hate speech for journalists and social media* (TED2021-130810B-C22).

The main objectives of these projects, financed by the Spanish Ministry of Science, Innovation and Universities, consist of analyzing the way in which misinformation is spread through social networks and the way in which the media combat it, as well as knowing the impact of the implementation of artificial intelligence, particularly in its social dimension.

The authors want to thank all the people and institutions that have made this projects possible with their help.

Simón Peña-Fernández  
Koldobika Meso-Ayerdi  
Ainara Larrondo-Ureta  
Editors

NEWSNET #4

THE CHALLENGE OF ARTIFICIAL INTELLIGENCE FOR JOURNALISM

**ARTIFICIAL INTELLIGENCE IN JOURNALISM AND  
COMMUNICATION**



**LEGAL PROBLEMS (AND SOME REMEDIES) RELATED TO  
ARTIFICIAL INTELLIGENCE, MEDIA, AND COPYRIGHT LAW: A  
STATE OF THE ART (SO FAR)**

Javier Díaz-Noci  
[javier.diaz@upf.edu](mailto:javier.diaz@upf.edu)  
*Pompeu Fabra University (UPF)*

**INTRODUCTION**

Journalism's use of artificial intelligence (AI) dates back to at least 2010, when The Guardian and other media outlets began using such systems to produce sports journalism. In 2015, a specific AI-based software, Dreamwriter, was created by a Chinese company, Tencent, specifically to produce news. Some others were also launched in the 2010s—to mention just a few, Wordsmith by Automate Insights, used since 2014 by the Associated Press agency, and Recount, StatsMonkey, Media Brain, Kognetics, or Heliograf, used by The Washington Post since 2016 (Díaz-Noci, 2020). However, the popularization of OpenAI's ChatGPT (and other public systems, such as Stable Diffusion to produce images), at the end of 2022, is what has sparked concern about artificial intelligence's impact on news production and dissemination, also from a legal point of view (Trapova and Mezei, 2021).

This is the field in which we are doing some research at this moment, following the trends related to intellectual property and copyright law, from a transnational and comparative perspective. The following few pages will explain those trends that are on the horizon and that, in our opinion, have made

negotiation and agreements the main solution for the problems posed by the use of artificial intelligence in everyday news production.

#### **STATE OF THE ART AND METHODOLOGICAL APPROACH**

This short paper is intended to open the door for the continuation of our previously published research that is related to our current ongoing research projects, on several aspects related to copyright law and the media (Díaz-Noci, 2023a and b) and the changes that the uptake of artificial intelligence systems may cause in journalism, from at least two points of views: input and output (Gaon, 2021).

Artificial intelligence is being trained with preexisting works (many of them copyrighted) without explicit permission from the copyright holders and, more importantly, from authors (Gervais, 2023).

In addition, by using artificial intelligence, media organizations obtain new intellectual works, whose rights will be attributed to someone. In civil law countries, this invariably means individual human authors. This is not necessarily the case in common law countries, which some of these authorless works could be considered to be from. Certainly, this is not the situation in Chinese copyright law, one of the newest in the world. The Asian giant is proposing a separation between the authorship and property of intellectual works, as we have explained previously in the aforementioned references. This is, by the way, a risky path that may be followed elsewhere; at least, this is our humble opinion.

Our methodological approach to the topic is, as it has always been thus far, a legal functionalist approach (Whytock, 2009) from a comparative perspective attending to general legal categories (type of rights, e.g., moral, exploitation, and ancillary rights [Wilkinson and Gerolami, 2009]; authorship; attribution of rights according to categories of works, especially individual, joint, and collective works) and from a transnational perspective, more related to legal

cultures—common law, civil law, and socialist countries, singularly China—than to particular countries.

## DISCUSSION

The first concept we do not agree with is generative artificial intelligence (GAI), since, so far at least, the way those systems proceed is predictive: such AI systems need to rely on other works to produce new ones, mimicking chains of words, sentences, or elements and learning using large masses of works. From a legal point of view, this is one of the first issues to be carefully considered. If we accept that AI systems only do this, then it seems quite clear that they cannot create anything out of the blue. Creativity is not part of the equation, and neither is originality, a legal requirement in all legal systems for a work to be protected under copyright law. Moreover, in civil law systems, based on authors' rights, originality is only expected from human authors.

Artificial intelligence systems are considered tools to assist authors, for instance journalists, in their job. Intellectual skills are still required to design the final output. Machines do not decide, at least not yet. To the extent that artificial intelligence is used to assist in reporting, it might not pose any particular problem from a legal point of view, beyond, perhaps, deciding to what extent human intervention (for instance, introducing prompts) is sufficient to attribute full authorship. In this respect, this could be more problematic especially in common law countries, where journalists are barred from compulsory recognition of their moral rights (paternity, especially). Even in those countries, media companies tend to recognize the authorship of their employees since it helps improve the trustworthiness of their journalistic production.

Whenever artificial intelligence tools are implemented in a media outlet's content management system, it appears even clearer that it is just a tool to help people working with gathering information, fact-checking, production,

translation, or some other repetitive, boring tasks (Bollard, 2023). Journalists should just be aware that using those tools and automatizing part of their job (Bavitz, 2023) should not mean a loss in the recognition of their full authorship. In this respect, agreements with companies and contract law should help.

The main problem related to the use of AI systems and the news is not related to output, but rather to the input processes before. Since OpenAI's ChatGPT and the like must be trained upon works gathered from the Internet (large language models [LLMs]; Elondou et al., 2023), the problem is related more to copyright infringement on reproduction rights—collection and anthology rights can also be affected—than to how those AI systems produce derivative works, based on preexisting ones whose paternity rights should be recognized, and whose usage rights should be always respected.

The solution to those problems, especially the second one—related to learning—is threefold: first, the creation of new laws has been proposed, for instance in the European Union, where an AI directive proposal was published in November 2023. This is based on risk levels from AI companies, with Google and the like in mind, quite obviously. Google is quicker than the European lawmakers, and in July 2023 it was announced that it was already testing an AI tool for news production named Genesis, to be used by The New York Times and many other great companies in the USA and the world.

Those companies at the same time—and most probably to put some pressure on Google—have tackled using their news repositories through the use of bots. Meanwhile, some other companies, such as Associated Press, have preferred to sign an agreement with OpenAI, authorizing it, for a fee obviously, to use their content back to 1985. It is unclear, whether, as would be fair, this compensation will also be shared with authors of the news stories—journalists. Principles published by media associations (Digital Content Next, News Media Alliance) have insisted on ancillary rights—the same used by the Directive on Copyright in the Digital Single Market, EU, 2019—to assure negotiation power

for all collective works that may face the challenge of artificial intelligence. To some extent, this will be complemented by legal reform of copyright law, which is the French way: the proposal is to amend the Intellectual Property Act to include traceability of works created with artificial intelligence.

## CONCLUSIONS

This is a short, preliminary, and quite introductory text. As such, at the risk of providing just a sketch, we identified two main approaches to the issue: a convergent solution, for instance, protecting intellectual property rights through collective works—where ancillary and press publishers' rights are put in place—and a divergent solution, separating authorship and property, as enacted in the Chinese Copyright Act. The emerging concept of authorless work, coming specially from some common law countries, must be considered, but has not been highlighted as the primary solution.

Compensation becomes the main idea, and negotiation between media companies and AI system companies is the tool. Litigation and technical vetoing or tackling seem to be just another way to force giants such as OpenAI and Google to negotiate with the copyright holders of the collective work, under whose umbrella intellectual property should be claimed and protected. What the authors' place is and whether collective negotiation or individual agreements (or contractual clauses) with companies should be the norm in a landscape in which work for hire is at the core of the system (Fu, 2023) are central questions that must be studied; therefore, the next step should be asking journalists about attitudes and perceptions regarding the magnitude of the legal changes—among many others—that artificial intelligence brings to their job (Vogler et al., 2023).

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## CHALLENGES FOR DIGITAL NATIVE MEDIA IN THE FACE OF DISINFORMATION GENERATED THROUGH ARTIFICIAL INTELLIGENCE

Kevin Alexis García  
[kevin.alexis.garcia@correounivalle.edu.co](mailto:kevin.alexis.garcia@correounivalle.edu.co)  
*University of Valle & Pompeu Fabra University (UPF)*

Laura Pérez-Altable  
[laura.perez@upf.edu](mailto:laura.perez@upf.edu)  
*Pompeu Fabra University (UPF)*

### INTRODUCTION

Digital native media in Latin America are known for exploring alternative models, both editorial and financial, that allow them greater autonomy to develop in-depth coverage, address social issues and political corruption, and discuss historically excluded groups (Harlow, 2021; Salaverría, 2019). However, the rapid development of artificial intelligence (AI), the overabundance of misinformation, and the ability to create highly realistic but fake content, known as a deepfake, represent new challenges for these media outlets, which seek sustainability (Rana et al., 2022).

While there is extensive research on the impact of misinformation in the Global North (Ababakirov et al., 2022), its effect in the Global South, in contexts of democratic deficit, has been studied less. This paper analyzes interviews with editors and journalists from Colombian digital native media outlets. It seeks to explore their perspectives on the ethical challenges posed by AI, mainly



misinformation, as well as strategies for responsibly addressing it. The aim is to contribute findings on how digital native media in contexts of democratic deficit can navigate the tensions between technological innovation and informational integrity.

#### STATE OF THE ART

Various authors have explored algorithmic automation's implications for journalism. For instance, Manfredi-Sánchez and Ufarte-Ruiz (2020) suggest that AI can bring benefits such as efficient source review and the elimination of routine work, enabling journalists to focus on more strategic tasks. However, they also warn that there is a potential for spreading misinformation: "Machines can systematize production and adapt to the particular uses of the audience and create information, with a journalistic appearance, for disinformation purposes" (p. 65).

Misinformation has emerged as a key challenge for digital native media. First Draft News, an established non-profit organization, identified seven categories of mis- and disinformation: satire or parody (that may confuse without intent to harm), misleading content (information used deceptively), imposter content (forged sources), fabricated content (content that is completely false and harmful), false connection (discrepancy between headlines, images, and content), false context (real content in the wrong context), and manipulated content (alteration of real information or images; Wardle, 2020).

Additionally, Túñez-López et al. (2021) highlight that, while artificial intelligence techniques are being developed to detect false content, more sophisticated methods are also being developed to evade detection. Therefore, the authors recommend a holistic approach, including media literacy, collaborative fact-checking, and other ethical approaches.

According to Peña-Fernández et al. (2023), integrating AI into journalism presents both benefits and ethical challenges that require action-oriented attention. In this regard, Díaz-Noci (2023) suggests that early experimentation with AI in journalistic media may have more advantages than disadvantages. However, proper guidance in its application will necessitate vigilant intervention. Artificial intelligence has the potential to reduce production costs, if not replace employees.

## **METHODOLOGY**

This study used a qualitative approach, employing semi-structured interviews to deeply understand editors and journalists' perspectives on the challenges posed by algorithmic misinformation. The purposeful sample consisted of four Colombian digital native media outlets covering social and political issues, selected for their relevance and influence. Editors and reporters were interviewed individually, and experts and journalists from other digital native media outlets were also interviewed.

The interviews, conducted between March and April 2023, formed part of a research project investigating the factors that determine the native media outlets' ability to address social problems and provide alternative coverage to underrepresented communities with democratic deficit. This paper focuses on the challenges and opportunities related to artificial intelligence that emerged from the participants' responses.

The study explored the participants' perceptions of and strategies for dealing with AI-generated misinformation. The interviews were recorded, transcribed, and coded using Atlas.Ti qualitative analysis software. Quotes and emerging themes were identified by applying a grounded theory approach grounded in the interviewees' narratives.

## RESULTS

The findings highlighted significant tensions and opportunities in response to artificial intelligence's impact on the information ecosystem. One of the main challenges mentioned was that AI enables the creation of more elaborate misinformation that is more difficult to fact-check, such as deepfakes, which demand new skills and fact-checking processes in newsrooms. As a fact-checking journalist stated, "The challenge is not only to detect this false content but also to educate the citizenry about how it works" (Interviewee 3).

Another concern is potential job replacement for those performing repetitive tasks susceptible to automation. While this could represent an opportunity for journalists to focus on higher value-added tasks, it also entails uncertainties about the future employment of journalists performing some roles. As a fact-checking journalist noted: "I have colleagues who have spent the last five years writing press releases that ChatGPT can now generate in seconds" (Interviewee 2). However, they also recognized that this ability could help produce higher-quality journalism.

Moreover, there is a fear that hyper-personalization of content may intensify audience fragmentation, making it even more challenging for small media outlets to attract and retain audiences. The director of a digital native media outlet warned, "I feel that, if today's audiences are fragmented, with artificial intelligence, they will be even more so; everyone will be reading their own mini niche media" (Interviewee 5). They also expressed concern that individuals may primarily rely on personalized newsletters for information.

Despite these challenges, the interviewees exhibited a proactive attitude toward quickly learning the latest about AI to stay up to date, although they acknowledged that learning demands additional effort beyond their work assignments. Regarding keeping up to date, a journalist noted, "it depends on the journalists, but also on the media outlet" (Interviewee 1). There is an

awareness that AI is an unstoppable innovation that must be integrated ethically. An editor added, “I try to be optimistic because digitization has no limit. Today it is artificial intelligence, and we have to be there. We have to keep moving with reality” (Interviewee 6).

Among the opportunities, the potential to automate the preparation of simple journalistic texts to free up reporters’ time stands out; this perspective aligns with what Peña-Fernández et al. (2023) pointed out. Additionally, AI’s potential to optimize search engine positioning and enhance publications’ visibility in a highly competitive digital environment is mentioned. While AI imposes new challenges on digital native media, it also opens up possibilities for innovation in terms of efficiency, productivity, and journalistic quality. To summarize this section, Table 1 provides a detailed overview of the main findings of this study.

*Table 1.* Summary of findings on AI’s impact on digital native media

<b>Theme</b>	<b>Challenges</b>	<b>Opportunities</b>
Content verification	New forms of more sophisticated and difficult-to-detect misinformation	Development of new fact-checking processes and skills
Journalistic employment	Possible replacement of roles that carry out repetitive tasks	Automation of routine processes to focus on high-value tasks
Audiences	Greater fragmentation due to hyper-personalization	Innovation in formats and channels tailored to new news habits
AI upgrading	Fatigue due to the current high workload	Training to integrate these technologies quickly
Journalistic processes	Ethical risks tied to the use of generative AI	Improvement of efficiency and productivity through responsible use

Source: Authors’ own creation

## CONCLUSIONS

This exploratory qualitative study provides significant insights regarding the tensions faced and opportunities encountered by digital native media owing to the impact of artificial intelligence.

In response to the disruption caused by Internet 2.0 decades ago, traditional media were slow to react and lost prominence. However, our findings suggest that journalists now have learned from those mistakes and are actively seeking to adapt to the exponential change driven by AI.

There is a mindset geared toward discovering and implementing innovations to creatively take ownership of these technologies, improve processes, maximize productivity, maintain relevance, and enhance digital native media's competitiveness. As one interviewee pointed out, AI can be an "ally" if integrated strategically.

However, the overall impact that AI will have on digital native media is still unknown, as it is still developing. However, they are certain that AI has an extraordinary power to change the paradigms of communication and journalism.

AI presents unprecedented ethical challenges, such as the proliferation of deepfakes, which are difficult to fact-check. Nevertheless, it simultaneously opens up possibilities for media to automate certain processes, improve their stories' positioning, and focus their efforts on high-value journalistic tasks.

In summary, AI is both a highly disruptive agent and a tool that facilitates high levels of productivity for the contemporary information ecosystem. Using it requires balance, responsibility, and a commitment to journalistic rigor. This research is a first step in critically understanding this phenomenon, but further study is needed to chart journalism's future in the algorithmic age. It is

necessary to bolster media literacy and reinforce the ethical use of AI among information professionals. Comprehensive and multidimensional strategies are indispensable for digital native media to responsibly leverage the opportunities that come with AI and mitigate its risks to preserve their civic and manifold obligations in contexts of democratic deficit.

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**INTEREST IN AND OPPORTUNITIES FOR THE APPLICATION OF  
AUTOMATED ANALYSIS FOR THE STUDY OF PARLIAMENTARY  
POLITICAL SPEECHES**

Ainara Larrondo-Ureta  
[ainara-larrondo@ehu.eus](mailto:ainara-larrondo@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Simón Peña-Fernández  
[simon.pena@ehu.eus](mailto:simon.pena@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Julen Orbegozo-Terradillos  
[julen.orbegozo@ehu.eus](mailto:julen.orbegozo@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Nayla Escribano-García  
[nayla.escribano@ehu.eus](mailto:nayla.escribano@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Rodrigo Agerri-Gascón  
[rodrigo.agerri@ehu.eus](mailto:rodrigo.agerri@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

**INTRODUCTION**

Based on the study funded by the University of the Basque Country (UPV/EHU) entitled Tools for the Analysis of Parliamentary Discourses:

Polarization, Subjectivity, and Affectivity in the Post-truth Era, the Gureiker Group (Basque University System, IT1496-22), from the Faculty of Social Sciences and Communication, has been working in recent years with the IXA Group, from the Faculty of Computer Science of the UPV/EHU. The Gureiker Group specializes in analyzing communicative discourses from digital, journalistic, and political–institutional perspectives, whereas IXA carries out research the field of natural language processing (NLP) in Basque, Spanish, and written English.

From this collaboration, the two groups have developed BasqueParl, an analytical project based on the use of machine learning and natural language processing (NLP) techniques in the context of the speeches that occurred in the Basque Parliament. For this reason, the aforementioned project itself is an interesting research proposal in the use of automated research techniques to examine parliamentary speeches, in this case, of a bilingual nature (Basque and Spanish), which undoubtedly entails greater complexity.

The project also reveals an interest in the framework of those studies focused on the argumentative, rhetorical, and emotional discourse of parliamentary speeches from a gender perspective. In this way, BasqueParl stands out at the scientific level for its focus on the context of bilingualism and gender parity in political representation, since the Basque Parliament has a notable qualitative balance between men and women. In more social terms and in terms of dissemination to society, BasqueParl makes it possible to deep-dive into parliamentary speeches using automated techniques to promote greater political transparency.

#### **STATE OF THE ART**

Parliamentary speeches have historically attracted attention from linguists, sociologists, and psychologists (Iñigo-Mora, 2007: 410). Likewise, social communicators in the political sphere have shown a growing interest in this

field. To date, various houses of government have been studied from the point of view of discourse and argumentation, for example, the Dutch Parliament (Grijzenhout et al., 2010) and British Parliament (House of Commons; Abercombrie and Batista-Navarro, 2018; Salah, 2014; Rheault et al., 2016; Iñigo-Mora, 2007). In Spain, the Andalusian Parliament has been the object of interest, with special attention to issues linked to gender and emotional discourse (Alcaide, Carranza, and Fuentes Rodríguez, 2016; Álvarez-Benito and Mora (2016), as has the Congress of Deputies (Iñigo-Mora, 2007).

The academic literature differentiates parliamentary speeches according to their formalities and argumentative purposes, but also other more contextual issues, such as the characteristics of the interactions they promote through the turn-based system. The fact that the speeches are made in parliament is, in the end, what gives them their added value (Van Dijk, 2005: 339). Specifically, authors such as Alcaide, Carranza, and Fuentes-Rodríguez (2016) emphasize the argumentative and rhetorical value of parliamentary speeches delivered using emotional language, which is particularly interesting in those analyses that use the gender perspective.

According to Iñigo-Mora (2007: 409 et seq.), parliamentary discourse is a distinctive, institutional type of discourse with two important aspects: on the one hand, the preference for the confrontation of ideas and opinions between representatives of different ideologies and cooperation between those of the same party and, on the other hand, the presence of multiple audiences. According to the same author, these characteristics encourage parliamentarians to use highly strategic language to achieve their political ends.

Cornelia Ilie (2016) explains that the work of parliament is essentially limited to speaking (monologic communication) and debating (dialogic communication). According to the same author, it is thus taken for granted that parliamentarians are able to act and interact with their adversaries, both in a

confrontational manner (on issues or problems that are distinctly electoral) and in a collaborative manner (when it comes to supporting or reaching agreements on certain issues).

With specific reference to their study using automated techniques, the studies by Rheault et al. (2016), Abercromie and Riza (2018), and Salah (2014) combine the examination of parliamentary speeches and the use of modern analysis techniques supported by big-data tools (algorithms, data mining, and machine learning, respectively), mostly in terms of sentimental polarity (positive/negative). Previously, studies such as that of Bara, Weale, and Biquelet (2007) had focused on the parliamentary debates in the House of Commons with the aim of comparing and determining the virtues or advantages of computer-aided text analysis (CATA) based on two analytical approaches: the semi-automatic (Hamlet) and automatic (Alceste) analysis techniques. As the authors themselves explained, “political writing and talking generates a great deal of data, indeed data so voluminous in extent that no one researcher could expect to understand them alone or without mechanical aid of some kind” (Bara, Weale, and Biquelet, 2007: 578).

In this sense, the application of computer methods or massive data analysis techniques that make it possible to observe changes or variations in parliamentary language is crucial. Applying these techniques to the study of speeches in the Basque Parliament through the BasqueParl project has led to several works to date, such as those of Escribano et al. (2022) and Orbegozo-Terradillos et al. (2023), pending publication at the time of writing (preprints, November 2023).

## RESULTS

As mentioned above, in the Basque Parliament, discourse gains significance owing to its bilingual nature (Basque and Spanish) and the gender of its speakers, as it is a house distinguished by having equal representation between

the male and female genders, in comparison with other parliaments in Spain and abroad. The BasqueParl study examined parliamentary sessions ( $n = 41,417$ ) of this institution that took place between December 3, 2012, and February 7, 2020, covering two legislature sessions, namely 2012–2016 and 2016–2020. This corpus involved the analysis of almost 14 million words in Spanish and Basque ( $n = 13,872,105$ ).

The development of this corpus included a previous preprocessing phase to prepare the sample for data analysis, by means of different processes or techniques. On the one hand, considering that the speeches used were varied and switched from one language to another, the language of each unit of the corpus was identified using an idiomatic detection system named Langdetect, which operates by comparing the  $n$ -grams of a text with other similar ones previously identified with linguistic metrics, based on a high probability (Agerri et al., 2020). Language attribution was done by paragraph so that the words in each paragraph were assigned to a single language, even though they might contain some words or phrases in the other language.

To identify parliamentarians and attribute their speeches, a lemmatization and named entity recognition (NER) for Basque and Spanish were also performed using the Flair system (Agerri and Rigau, 2020; Escribano et al., 2022), supported by a bidirectional long short-term memory network (BiLSTM) architecture and a type of contextual word embedding based on characters (Akbik et al., 2019). The system and embeddings have demonstrated high performance in sequence labeling tasks such as part-of-speech, NER, or semantic role labeling (SRL; Agerri et al., 2020; Escribano et al., 2022).

In addition, rule-based methods and machine learning techniques were applied, and a pilot test was developed to test the validity of the preprocessed corpus. Other metadata, such as the full name of the speaker, their year of birth, their gender, and the political party they represent, were added to this corpus. All this made it possible to differentiate the use of languages according to the

gender or party of the political speakers, as well as to promote a comparative analytical perspective according to gender and according to the categories used (language and ideology).

This corpus was enriched with metadata on those delivering the analyzed speeches, also making it possible to interrelate the analytical variables of language use with others such as gender, ideology, or topics and issues. This made it possible to detect a slight underrepresentation of women in parliamentary political speeches.

The results of the study indicate key issues such as the use of speech and gender (women speak less than men), the use of official languages in a parliamentary forum (one out of every five words is spoken in Basque), and the weight of each party in the distribution of speech (there are minority parties that occupy more space than others that have greater representation or more seats). Based on these results and the interest in the methodology and analytical tools used, the research groups involved in the design of this research are examining the possibility of temporarily extending the corpus of speeches of the Basque Parliament, or promoting comparative studies using the speeches of other legislative houses of interest in linguistic and/or gender terms.

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## THE IMPORTANCE OF MEDIA LITERACY IN COMBATING ARTIFICIAL-INTELLIGENCE-GENERATED MISINFORMATION

Barbara Sarrionandia Uriguen  
[bsarrionandia001@ikasle.ehu.eus](mailto:bsarrionandia001@ikasle.ehu.eus)  
*University of the Basque Country (UPV/EHU)*

### INTRODUCTION

The emergence of artificial intelligence (AI) in content production and distribution in information society has led to an unprecedented crisis of confidence (Manfredi Sanchez and Ufarte Ruiz, 2020). There are advantages to its use, as it offers efficiency by automating repetitive tasks for communication professionals. However, there is a consensus that human supervision is needed to avoid misinformation (Martin, 2017; Gani and Haddou, 2014; Diakopoulos, 2019; Dhiman, D. B., 2023; Peña et al., 2023).

Thus, misinformation is liable to corrupt the news, since the very process of creating content with AI can introduce potential biases originating from the data chosen for the initial database, creating controversies about fairness and transparency in machine learning (Marconi, F., 2020). In addition, the personalization and content recommendation carried out using AI can help reinforce these biases, as can algorithmic gatekeeping, which creates echo chambers, contributing to harassment and victimization (Leiser, M., 2022).

As a result, public concern about misinformation is evident, as reflected in surveys such as the I Study on Misinformation in Spain [I Estudio sobre la Desinformación en España] (Unión de Televisiones Comerciales en Abierto [UTECA] and the University of Navarra, 2022), where 95.8% of the population

identified misinformation as a social problem. This concern has also led to the creation of projects such as Iberifier, which is supported by the European Commission and associated with the European Digital Media Observatory (EDMO). Iberifier's primary objective is to analyze the Spanish and Portuguese digital media ecosystem and tackle the problem of misinformation, and it has identified more than 1,700 instances of misinformation since 2021 (Peña et al., 2023).

Tackling the challenge of misinformation requires a holistic approach that goes beyond the technological to involve regulatory and educational measures for users (Karnouskos, 2020; Cucarella; Fuster, 2022). Therefore, this article proposes media literacy as a solution to the misinformation problem.

## **METHODOLOGY**

A systematic literature review (Codina, 2020) centered around the concepts of media literacy, misinformation, and artificial intelligence, as well as their functional synonyms and other related definitions, was carried out. A time range from 2000 to the present was established, and the search of the main academic databases and directories (Web of Science, Scopus, Dialnet, or Google Scholar) was conducted.

## **RESULTS**

One of the best known tools currently used most to fight misinformation is fact-checking, which has become key in identifying and combating fake news (Nieminen; Rapeli, 2019). Fact-checking sources is recognized to be an effective strategy when it comes to keeping misinformation from spreading (Hyman; Jalbert, 2017), although its effectiveness may vary depending on a variety of issues, such as the incurrance of the backfire effect (Margolin; Hannak; Weber, 2018; Oeldorf-Hirsch et al., 2020).

Additionally, some propose developing specific tools to detect fakes (such as the system created by the Computer Science and Artificial Intelligence Lab (CSAIL) at Massachusetts Institute of Technology [MIT] in collaboration with the Qatar Computing Research Institute (QCRI) or the British startup Fabula, which identifies misinformation by studying how stories are shared), where AI, especially recurrent neural networks, plays a crucial role (Blauth et al., 2022). Therefore, human supervision remains essential to review AI's results (Dhiman, D. B., 2023), although this may also raise concerns about a potential increase in preventative censorship associated with excessive use of AI in this context (Chesney and Citron, 2019).

The use of technologies such as blockchain to link videos to trusted entities has also been proposed (Karnouskos, 2020). However, recently the misinformation-fighting initiatives promoted by European and Spanish national public institutions all include media literacy as one of their primary defenses (Sádaba and Salaverría, 2023).

The key role played by media literacy in the fight against misinformation has been widely recognized (Sádaba and Salaverría, 2023; Celik, Muukkonen, and Dogan, 2021; Hobbs and Mihailidis, 2017; Jenkins et al., 2006; Metzger et al., 2003; Xie, Gai, and Zhou, 2019).

As such, the European Union has proposed the Action Plan on Disinformation to bolster society's responsiveness through literacy (European Commission, 2018). Japan, the United Kingdom, and Spain are examples of countries that have incorporated media literacy into their educational plans (Nupairoj, 2016; Cairncross, 2019; BOE, 2020). Importantly, the Council of Europe has even urged ministries of education to implement an internationally standardized curriculum for media literacy (Wardle and Derakhshan, 2017).

In addition to the above, numerous educational institutions and journalism associations, ranging from students to journalism professionals, promote

literacy (CAC, 2018; FAPE, 2021), and many literacy tools, such as questionnaires and competency frameworks and the Center for Media Literacy's "Media Literacy: Five Key Questions", are considered essential (Valverde-Berrocoso et al., 2022; De Abreu, 2021). In the same vein, there are fact-checking sites and multi-source analysis, most noteworthy of which are platforms such as Factcheck.org, Snopes, and the First Draft Partner Network (Mihailidis and Viotty, 2017).

In addition, initiatives such as Project Look Sharp, the News Literacy Project (NLP), Mind Over Media, and the Public Broadcasting System (PBS) Student Reporting Labs have recently emerged to develop critical thinking skills in the digital age.

## CONCLUSIONS

From the information and insights presented above, it can be concluded that, to fight the misinformation problem, the authorities advocate and promote a model of public co-responsibility in which media literacy is key because any technological measure would be limited, since it is imperative that people playing a leading role.

The literature review provided in this article has limitations, as it lacks empirical evidence to demonstrate the efficiency of media literacy measures when it comes to fighting misinformation. The importance placed on media literacy has been demonstrated, but the possible measures for fighting misinformation remain to be tested.

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NEWSNET #4

THE CHALLENGE OF ARTIFICIAL INTELLIGENCE FOR JOURNALISM

## RESEARCH ON DIGITAL COMMUNICATION

## YOUNG PEOPLE AND PUBLIC MEDIA: THE YOUNG AUDIENCE'S PERCEPTION OF RTVE'S VALUE AND OFFERING

Gaizka Eguskiza-Mestraitua

[gaizka.eguskiza@ehu.eus](mailto:gaizka.eguskiza@ehu.eus)

*University of the Basque Country (UPV/EHU)*

Josep Àngel Guimerà i Orts

[JosepAngel.Guimerà@uab.cat](mailto:JosepAngel.Guimerà@uab.cat)

*Autonomous University of Barcelona (UAB)*

### INTRODUCTION

Previous works have shown the major development that platforms have undergone in the audiovisual industry, becoming in just a few years the benchmark in the sector in terms of both production and consumption by the public (Campos-Freire et al., 2018; Guerrero Pérez et al., 2018; Maroto González and Rodríguez Martelo, 2018; Ruiz Muñoz and Pérez Rufí, 2020).

The rise of these new global players marks a very important change for traditional television operators, since, through the flexibility of a platform (Izquierdo-Castillo, 2012), they can reach global audiences, allowing them to gain a higher investment capacity than that of any national operator. Often, the strength of the parent group backing these investments—Disney, Amazon, or Warner—is also a factor.

This presents a very complex challenge for the traditional operators, but particularly for the public media, which, for decades, have been under great pressure in terms of financing (Fernández Alonso et al., 2017) and competition,

which is pushing them to occupy an increasingly limited place within the audiovisual scenario. Moreover, this marginalization occurs at a time when quality content is more necessary than ever in the face of the avalanche of disinformation and extraneous slots (Fieiras et al., 2023).

In this regard, many authors have expressed concern about young audiences' abandonment of public media and have pointed out the importance of communicating the value of these media outlets' survival to counteract the hyper-commercialization of the audiovisual market (Dias and Teixeira-Botelho, 2016; Izquierdo Castillo, 2017; Bruun, 2018).

In Spain, the public media are no exception to this generalized pressure and have experienced considerable difficulties in developing their online models. The objective of this work is to determine young audiences' perception of the need for public media to determine the ranking of this offering within the current landscape. The data are compared with previous results regarding awareness and consumption of the online offering from Radiotelevisión Española (RTVE).

## **METHODOLOGY**

The results are based on a survey of digital platforms in Spain. The study conducted between April 8 and April 27, 2022 involved a sample of 1,016 subjects for a 95% confidence level. Assuming a maximum variability of the population of  $p = q = 0.5$ , the sampling error for the total is  $\pm 3.07\%$ . The sample was divided among the autonomous communities in the following way: Andalusia (206), Aragon (35), the Balearic Islands (16), the Canary Islands (50), Castile-La Mancha (40), Castile and Leon (44), Catalonia (172), the Community of Madrid (199), the Community of Navarra (8), the Community of Valencia (97), Extremadura (12), Galicia (43), the Basque Country (27), the Principality of Asturias (17), the Region of Murcia (31), La Rioja (5), and Cantabria (14).

## RESULTS

Tables 1 and 2 present the data regarding the perception of the need for public television, in which the results show majority support, both according to gender and age. Only 11% of the people surveyed said that there is no need for a public television offering.

*Table 1.* Young people's perception of the need for public television according to age (18–35 years old)

<b>Need for public television</b>	<b>No</b>	<b>N/A</b>	<b>Yes</b>
18–23 years old	9.88%	6.29%	83.83%
24–29 years old	11.21%	5.31%	83.48%
30–35 years old	13.70%	7.00%	79.30%
<b>Overall total</b>	11.61%	6.20%	82.19%

Note: NA, not applicable  
Source: Authors' own creation

*Table 2.* Young people's perception of the need for public television according to gender (18–35 years old)

<b>Need for public television</b>	<b>No</b>	<b>N/A</b>	<b>Yes</b>
Men	11.46%	5.53%	83.00%
Women	11.86%	6.72%	81.42%
<b>Overall total</b>	11.61%	6.20%	82.19%

Note: NA, not applicable  
Source: Authors' own creation

For the following tables, Tables 3 and 4, the need for a public television offering aimed *ad hoc* at young audiences, in the style of RTVE's own offering with its Playz platform, was specifically asked about. As in the preceding case, the majority support this, independent of both gender and age.

However, support is decreasing, and the percentage of respondents who oppose this public media offering specifically aimed at young people was 20%.

*Table 3.* Perceived need for public television focused on young people according to gender (18–35 years old)

Need for public television for youth	It is necessary	Yes, it is necessary online	Yes, it is necessary in the traditional television offering	Yes, it is necessary online as well as in the traditional offer
Men	21.34%	31.23%	15.42%	32.02%
Women	18.97%	28.26%	16.40%	36.36%
Non-binary	25.00%	25.00%	25.00%	25.00%
<b>Overall total</b>	<b>20.18%</b>	<b>29.72%</b>	<b>15.94%</b>	<b>34.15%</b>

Source: Authors' own creation

*Table 4.* Perceived need for public television focused on young people according to age (18–35 years)

Need for public television for youth	It is necessary	Yes, it is necessary online	Yes, it is necessary in the traditional television offering	Yes, it is necessary online as well as in the traditional offer
18–23 y.o.	21.56%	29.94%	16.17%	32.34%
24–29 y.o.	16.81%	30.97%	16.22%	35.99%
30–35 y.o.	22.16%	28.28%	15.45%	34.11%
<b>Overall total</b>	<b>20.18%</b>	<b>29.72%</b>	<b>15.94%</b>	<b>34.15%</b>

Source: Authors' own creation

The resulting survey data showed majority support for the need for public media. They compared both the awareness and consumption of public media according to this age group, as shown by the same survey on which this analysis is based.

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## COMMUNICATION FOR SOCIAL CHANGE AND ENVIRONMENTAL CONTENT INNOVATION: A CASE STUDY

Ainara Larrondo-Ureta  
[ainara.larrondo@ehu.eus](mailto:ainara.larrondo@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Ángela Alonso-Jurnet  
[angela.alonso@ehu.eus](mailto:angela.alonso@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

### INTRODUCTION

In recent years, the development of a new model of journalism similar to media activism and media interventionism has been identified. The works that have reported this development in the legacy media acknowledge that journalistic standards and practices, i.e., respect for the values of objectivity and impartiality (Ginosar and Reich, 2020), have been maintained.

There are authors who assert, however, that focusing a high level of attention on journalism is being used as a tool to fight for different causes, and this can lead to “crossing certain boundaries” (Olesen, 2008; Brewer, 2023). If so, this would mean that journalism is being used for purposes different, in some respects, from those the profession has traditionally had.

Therefore, the proper development of activist journalism involves making the boundaries clear for a variety of situations: for instance, content that is produced for informational purposes but that affects and impacts the public by raising awareness and content that is specifically produced with the aim of



activist and social mobilization are not the same (Brewer, 2023). Social mobilization can develop both outside the networks as well as within them, in this case, from certain hashtivism campaigns.

In this paper we present the results of a study that examines a groundbreaking case of this type of development, relating innovation and corporate social responsibility (CSR) strategy of the media in terms of the changes driven by the United Nations (UN) 2030 Agenda and the demand for an overhaul of media agendas so that, at the editorial level, they prioritize issues linked to the Sustainable Development Goals (SDGs).

For media companies, one of the most obvious ways to implement CSR is to integrate sustainability into their business and content strategy. Considering that sustainability seeks to balance economic growth, environmental protection, and social welfare, several media outlets have decided to implement sustainability strategies based on content focused on issues such as the environment and social welfare, for example, social equity. Thus, in the context in which the media have been undergoing innovation at all levels (management, content, technologies, professionals, etc.) for years, many outlets have taken particular action to combine strategic business innovation and content innovation, seeking to promote sustainability through multimedia and transmedia content, as evidenced by the case examined in this paper.

## **RESULTS**

### *Social communication for global action: constructive and solutions journalism*

These developments are also taking place in a media context that is increasingly focused on trends such as “constructive journalism” or “solutions journalism,” of great importance in environmental issues. Constructive journalism aims to offer the audience a fair, accurate, and contextualized picture of the world, without overemphasizing the negative. Solutions

journalism, in contrast, is defined as rigorous reporting on solutions to problems (Thier, K., and Namkoong, K., 2023). Although both concepts have often been used interchangeably, some authors prefer to differentiate the concepts, viewing them as independent and interconnected (Lough and McIntyre, 2023). Both approaches converge in their interest in counteracting the bias toward the negative in traditional news and promoting explanatory journalism that can increase audiences' trust in the media and the main benchmark brands, which through this see an opportunity to recover their legitimacy.

Media communication can contextualize issues such as climate change within a holistic framework that generates informed action and mobilizes society. For some time now, the scientific community has been demanding communication informed by solutions to inspire concrete understanding, and encourage a constructive and proactive approach to address crises such as the ecological crisis, which has become a critical global challenge (Rodrigo-Cano, Fernández-Reyes, and Mancinas-Chávez, 2021).

It has been pointed out that, owing to the "post-normal" nature of the climate issue (Krauss et al., 2012), the journalists responsible for climate change coverage need to assume a more activist role. "Post-normal science" differs from concept from Kuhn (1962) of "normal science" in that it presents false facts about issues involving controversial and high-risk values, as well as steps for urgent decision-making (Brüggemann et al., 2020: 10–11).

Environmental activism in the media is critical, considering that media representations of climate change have greatly influenced personal and global citizen efforts to mitigate it (Swain, 2012: 162). However, media eco-activism, at least for now, remains a nominal issue.

*Environmental transmedia*

In this context, taking the set of measures recommended for the improvement of coverage on climate issues (Schurmann, 2023) as an analytical starting point, herein we present a study focused on the #EKIN\_Klima initiative by the Basque public broadcaster Euskal Irrati Telebista (EITB). Some previous works from researchers of the Gureiker Consolidated Group (IT1496-22) (Larrondo and Alonso-Jurnet, 2023) have examined the wider context of the #EKIN transmedia strategy, contextualizing the development of #EKIN\_klima (EKIN Climate) in relation to: (a) other social campaigns, such as those focused on gender equality or the fight against school bullying; (b) the usefulness of these types of environmental media campaigns when it comes to enhancing brand reputation (by functioning as transmedia branding), which is key for public broadcasters, which are in need of competitive advantages over private media companies and audiovisual operators; and (c) the move toward innovative professional roles in traditional media newsrooms, such as the activist journalist.

The fieldwork, which was carried out throughout 2022, consisted of an analysis of the transmedia content of the #EKIN\_Klima campaign, in addition to an in-depth interview conducted in April 2022 with the person in EITB's Press and Social Responsibility Department responsible for coordinating it. The results of the study were examined in light of the Ecology and Development Foundation (ECODES; 2019) recommendations on environmental coverage in the media: (a) provision of context, integration, or relationship of the climate approach with regard to other topics; (b) availability of professionals with specialized knowledge about climate change or particular awareness of it, in some cases coming close to the role of the so-called activist journalist, in the newsroom; (c) offering specialized scientific opinions and sources; and (d) including solutions in the topic's coverage, not only focusing on the problems.

#EKIN\_Klima was EITB's first activist transmedia campaign and represents, to date, one of the group's most widespread and significant actions. The campaign was reactivated in 2023 on the World Day of Action against Global Warming (also called World Day for the Reduction of CO2 Emissions; January 28) and World Earth Day (April 22).

This campaign consisted of a special webpage hosted within the EITB website, as well as content on social networks; some of this content was specific to this environment, whereas other content was reproduced for cross-platform use. The website included several text and video stories, reports in text, podcasts and access to social networks, and readers' comments. In the analysis, of note is the report prepared by a team of three journalists who traveled from Bilbao to Glasgow (Scotland) for the 26th World Climate Summit, which represents the role of the engaged activist journalists mentioned above. Also, on the day of the summit, several radio programs (Boulevard and Faktoria) joined the reporting or the campaign, as did several television news programs (Gaur egun, Teleberri), including the weather report.

Based on the results obtained, the case examined shows how it is possible to carry out an interpretation of CSR that truly involves the collaboration and participation of a variety of players, such as the public and journalists, who established a dialogue through social networking platforms (X [Twitter at the time of the analysis] and Instagram, primarily), and the hashtag, #EKIN\_Klima, which gave the campaign its name.

As demonstrated by the study, a campaign hashtag and transmedia content itself generate value that is shared by the media, journalists, and the public. It should also be noted how transmedia can be a useful narrative when it comes to creating "emotional engagement" issues that, similar to climate change, involve some kind of collective struggle based on multiple minds or communities.

## CONCLUSIONS

Using hashtags to drive activism has been recognized for its significant role in issues such as gender equality and feminism (Mendes, Ringrose, and Keller, 2019), or political freedoms, although there were no pre-existing studies linking it to specific media and transmedia campaigns, as is the case with EITB.

The public media's eco-activism activity can reposition them in the hybrid media system and help modernize—with their journalists' assistance—their social function, in the vein of other campaigns, such as those carried out by the British Broadcasting Corporation (BBC) against disinformation.

For EITB, as for other public broadcasters, presenting itself to society as a responsible company that contributes to sustainable development and the well-being of the community in which it is integrated is important. Perhaps what stands out most is that traditional communication companies are approaching these types of development or activist content strategies from a context and a concept of innovation that go beyond the merely technological, and that even achieve the corporation's strategic purposes and functions.

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**STRATEGIES FOR TRAINING COMMUNICATORS IN THE CONTEXT  
OF AGENDA 2030: RESEARCH, PEDAGOGICAL INNOVATION, AND  
GLOBALIZED SERVICE LEARNING**

Ainara Larrondo-Ureta  
[ainara.larrondo@ehu.eus](mailto:ainara.larrondo@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Uinsionn Mac Dubhghaill  
[uinsionn.macdubhghaill@nuigalway.ie](mailto:uinsionn.macdubhghaill@nuigalway.ie)  
*University of Galway*

Lucia Virostková  
[lucia.virostkova@uniba.sk](mailto:lucia.virostkova@uniba.sk)  
*Comenius University*

**INTRODUCTION**

Within the framework of the United Nations (UN) Agenda 2030 and the Sustainable Development Goals (SDGs), the media have begun to develop strategies that fall within the dynamics of social progress and sustainability, seeking to incorporate these SDGs into their own work. To this end, in 2018 the UN launched the SDG Media Compact 2018 platform to invite leading global media outlets to spread the word about the SDGs.

For years, the media have been facing a credibility crisis (Reuters Institute, 2023), exacerbated by the growth of social networks, which means that they need to engage public opinion on issues that match their interests. In many

cases, this makes it necessary to encourage journalism that covers topics that help improve societies (Lough and McIntyre, 2023). These strategies lead professionals not only to provide citizens with information and service but also to raise awareness to tackle critical global challenges, such as climate change, poverty, or gender inequality (Rodrigo-Cano, Fernández-Reyes, and Mancinas-Chávez, 2021).

Universities are responsible not only for empirical research on the main innovations, problems, challenges, and opportunities affecting the communication field but also for researching how to innovate on and improve the teaching–learning processes in journalism field. In this regard, the universities responsible for training future communicators have begun to develop useful strategies to develop specific skills that transcend the most basic and conventional procedural and theoretical training. In the midst of progress, the focus is transversal and emotional skills.

This paper introduces the ENLIGHT project (<https://enlight-eu.org>), in the field of didactic advancement and experimentation, which is useful when it comes to meeting the requirements for training engaged global citizens (De Wit and Leask, 2017). Professors from the University of Galway (Ireland), the University of Bratislava (Slovakia), and the University of the Basque Country (UPV/EHU)—the authors of this text—collaboratively developed the initiative in the 2023/2024 academic year. More than 50 students of courses related to digital media from undergraduate and postgraduate programs of the aforementioned universities, including students participating in the Erasmus+ program, have participated in the project entitled Collaborate to Investigate: A Virtual Mobility for Media Students. In the specific case of the UPV/EHU, the participating students are from the course Web News Content Creation and Reporting, a second-year course, in the journalism, audiovisual communication, and advertising and public relations degree programs.



As a more immediate predecessor of the aforementioned project, it is worth mentioning the pedagogical innovation initiative developed by the Gureiker Group between 2019 and 2021, entitled “Teaching communication in and for a globalized world. Developing transversal skills (TS) and Sustainable Development Goals (SDGs) in transmedia entrepreneurial project-based learning” [“Enseñar a comunicar en y para un mundo globalizado. El fomento de las competencias Transversales (CT) y los Objetivos de Desarrollo Sostenible (ODS) en el aprendizaje basado en proyectos emprendedores transmedia”]. This project was part of the first call for research projects from the UPV/EHU’s IKD i3 Laboratory of the Educational Advisory Service (SAE-HELAZ), with the aim that students in UPV/EHU’s digital communication and digital journalism programs develop a more responsible, sensitive, and critical view of current social issues related to global and digitalized citizenship (Larrondo et al., 2020).

The ENLIGHT project applies perspective of “Internationalization at Home” (IaH) to a teaching–learning process based on virtual cooperative methodologies and the project based learning (PBL) approach. This process seeks to train students in specific communication skills in the digital field, with the aim of creating journalistic content with a social perspective.

## RESULTS

Each of the theoretical, didactic, and practical axes that have guided the design and classroom application of the ENLIGHT project examined in this paper are discussed below:

### *Internationalization at Home*

The project applies an international scope with impact at two levels: the institutional level, measurable in terms of number and quality of agreements, etc., and the academic level, measurable in terms of the student body’s capacity for intercultural skills or global work (Beelen and Jones, 2015). The IaH

approach allows university students to have an international training experience without the need to participate in a mobility program, which is a doubly innovative experience for students in international programs such as Erasmus+. In the case of UPV/EHU's Spanish-speaking and Basque-speaking students participating in the Web News Content Creation and Reporting course in English and in the ENLIGHT project, specifically, the IaH perspective promotes interculturality based on a strategy complementary to learning journalism in a foreign language—in this case English.

*Virtual cooperation for practical and value-based journalism training*

Cooperation in the classroom proves to be an important training strategy, particularly in the field of digital media communication (Carvalho, 2014). Organized into 10 groups of four to five students, ENLIGHT students developed multimedia communication projects in English using a cooperative and virtual methodology. These projects include in-depth informative texts, as well as videos, audios, infographics, etc. In this way, through a website designed by the students themselves, they provide the public with in-depth coverage on topics of journalistic and social interest, related to or linked to the SDGs and the six ENLIGHT “flagship domains”: health and well-being, climate change, energy and the circular economy, the digital revolution, equity in society, culture, and creativity.

To develop these online communication projects in depth, students are trained in the classroom at each university to learn how to plan and write or edit content in different formats (text, audio, images, video and graphics), and from different narratives (reports, interviews, opinion pieces, chronicles, infographics, etc.). This requires a great deal of planning in terms of equipment and resources.

In addition to the procedural and organizational requirements, such coverage adds other requirements, linked to understanding the profession from the

point of view of its principles, functions, or missions. The web projects carried out by the students are based on the values of service and investigative journalism, in such a way that they seek to conform to the principles of “quality journalism” and “slow journalism.” The latter has been characterized as an analytical type of journalism, useful for explaining and conveying issues of particular complexity and impact to society. In this sense, from a training perspective, it has been important to help students adopt the professional values of objectivity and truthfulness regarding events (Olesen, 2008), which are not necessarily incompatible with social intentionality (Tumber, 2020).

As part of the project, three general or intergroup virtual meetings of all participating students and the three coordinating teachers were designed for the months of September, October, and November during the first four-month period of the 2023/2024 academic year, to be held using the Zoom application. Likewise, the project had anticipated intra-group meetings and dialogues between each group and the teaching coordinators. Virtual communication via e-mail was constant, and each group also had communication support tools such as WhatsApp. Groups also had work tools for planning and organizing tasks remotely, such as Trello, at their disposal.

## CONCLUSIONS

Pending specific results on the ENLIGHT initiative described in this paper, from the meetings held so far in the form of discussion groups, it is possible to conclude that students value this pedagogical approach (which is cooperative, virtual, and multimedia and with a social or solution-based approach) as a source of motivation in a profession (communication) whose boundaries are becoming increasingly blurred as a result of disinformation and other threats, such as the automatization of some information processes.

The project described above provides a practical case for encouraging students to develop creative multimedia skills and more “social” skills within the

professional development of communicators, which in this day and age must be based on cooperative work and virtual work. This is demonstrated, for example, by the data journalism projects developed in recent years through international cooperation among professionals (Larrondo and Ferreras, 2021). This calls for future communicators to have empathic or emotional intelligence skills, as opposed to a training and professional paradigm based around artificial intelligence. In fact, within newsrooms, the paradigm of innovation and professional adaptation entails not only learning new tools (for example, those based on algorithms or AI) and new expressive codes (transmedia, multimedia, etc.) but also significant thought and action when it comes to work cultures and the way future communicators are taught (Finberg, 2013).

For the moment, the difficulties reported by the participants are mostly related to the communication aspect, specifically, to virtual asynchronous communication. However, unlike previous projects, the activities described herein also make it possible to present IaH's advantages and challenges to teachers in the communication field. Likewise, the ENLIGHT project can help with designing future learning strategies similar to those described in this work, by drawing attention to the two sides (positive and negative) entailed in virtual and face-to-face coordination, forcing faculty and students to consider the advantages and disadvantages of this type of learning in the context of European universities.

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## EMOTIONAL COMMUNICATION FOR MASS MEDIA CONSUMPTION

Jokine Limón  
[jlimon001@ikasle.ehu.eus](mailto:jlimon001@ikasle.ehu.eus)  
*Universidad del País Vasco (UPV/EHU)*

### INTRODUCTION

The mass media kicked off this century generating a paradigm shift that requires constant adaptation to new technologies, new content, new forms of consumption, and the demands of the public. The ubiquity of the quadruple A—any device, anytime, anywhere, anything (Kishigami, 2004)—enables the listener to consume whatever they want, whenever they want, from wherever they want with global, universal, and free access to content.

Thanks to producers and users acting as players transmitting knowledge, culture, and values, online communities have been created as self-organized spaces for the horizontal construction of knowledge and non-formal learning—for freedom of expression, creativity, discussion, and cooperation as a veritable “digital school” where significant learning is acquired and where society decides what issues are or are not relevant to their daily lives and how they have to think and/or act about them (García-Marín 2020; Celaya et al., 2020).

The Internet is a space for coming together and for the viewing, posting, and dissemination of content. Therefore, it is a repository of knowledge that is constantly growing and in which you can find quality information but also false information—information that is taken out of context, incomplete, and superficial; disinformation and fake news are an unquestionable reality and are

present in the media, so it is necessary to analyze the content to determine its veracity (Llinas Rueda, 2015).

Currently, the media prosumer produces and consumes information, taking on a leading role in this new paradigm of participatory culture. Consuming and producing in a constructive and autonomous manner must be some of the current media literacy objectives, while also revisiting the parameters of audiovisual literacy when it comes to the uses and habits of children and young people in current digital scenarios (Barroso, 2010) or taking part in social networks being a democratic exercise for young prosumers (García Galera, 2013; García Galera & Del Hoyo Hurtado, 2013).

There is an ocean of media and information, where anyone can both consume and produce content in the media. Moreover, our society's classic belief systems such as politics, religion, or other organizations have lost credibility. Our society has been characterized as misrepresentative and superficial; There are high levels of stress, anxiety, dissatisfaction, insecurity, failure, and dysfunctional families, etc. This makes the social landscape, as experts on the subject confirm, a prime situation for social manipulators, who can be found on the Internet and mass media alarmingly proliferating pyramid schemes, fanatical groups, and sects offering "solutions" to this weakness and that search for self-knowledge and to find oneself (Urra, 2019).

Through the media, the public pick up values and behavioral patterns, and young people apply the least critical thinking, are the most credulous, and are vulnerable to this content (Perales-Albert and Pérez Chica, 2008). In a 2012 study from the Pew Research Center, students lacked the skills to select and think through the information they found on the Web (Passel et al., 2012).

In this context, the ability to discern and critically assess the enormous amount of information available becomes essential, and as Pérez and Pulido (2014) argue, to be a citizen today is to be a citizen in the media, which requires

cultivation of and education in the skills necessary for extensive and comprehensive use of media and communication technologies—where subjects participate by both consuming and producing these new communication genres, becoming emirecs, potentially empowered subjects who establish relationships among equals, and prosumers, people who consume what they produce (Orozco et al., 2012).

## RESULTS

As we can see, nowadays personal identity used to be configured through collective communities, but now this occurs through individualization and loose-knit relationships on networks, and many people journey into these types of online groupings in search of this identity, creating new social relationships with the help of new digital tools (García-Marín, 2020).

The arrival of so-called artificial intelligence (AI) presents a real risk being an advanced technology that can simulate reality and falsify spaces, news, images, and audio; it only enhances, if possible, the intentions of those who are willing to use it to manipulate and lie, without scruples, for their own benefit to achieve egomaniacal agendas and success, or simply to create fake news, with which they often intend to hurt and mislead others. As Ovejero (2013), an expert in the field, argues, there is no violence if there is no culture to support it, and to educate with ignorance and denial of the meanness and wickedness of some human beings is to cast out into the world people who are unarmed with the tools and values that would enable them to face it (Ibañez, 2017).

In the field of Communication and the Internet, the emotional dimension is intimately linked to the configuration of a person's identity (Serrano Puche, 2016). However, despite the fact that human beings experience things through emotions and thoughts, a concept of emotion understood equally by all is nebulous and elusive (Henaó-Arias et al., 2017). This undoubtedly acts as a rift and a social vulnerability through which concepts of emotion that intentionally



promote the mass media's impact permeate and that, being a fourth power, influence today's society to mediatize thinking, decision-making, and personality configuration.

For the mass media, what matters is persuading in order to sell, such that intentional arguments used to persuade become an intrinsic goal of social communication linked to a pragmatic goal, persuasion, taking for granted that the natural goal of all communication is persuasion (Cisneros, 2002).

As Cisneros (2002) and other expert authors on the subject state, we can affirm that currently the primary use of mass media is for mass sales, both by companies and by personal undertakings, creating asymmetrical interests and economic and political relations that are veiled with an apparently harmonious world. At present, the bulk of the media and mass communication fails the test of respect or recognition of others as valued human beings, since, as Gasparri (2012) states, disseminating distorted information and knowledge, false news, and lies through the Internet and mass media is an indisputable reality. In their dynamic, what matters is to convince others to be consumers.

## CONCLUSIONS

How does the mass media nowadays persuade and convince the receiver to become a consumer? As Rodriguez Andres (2021) states, the essence of persuasion as a type of communication is that it is not limited to transmitting information or sharing knowledge; rather, in it, the sender has the conscious and deliberate intention of influencing the way that others think and act, to incite them to a certain behavior and to move them toward mercenary decision-making. Intentionality is therefore one of the defining elements of this process and the characteristic that differentiates persuasion, defined as harassment of the receiver through the use of force and/or violence, from mere influence.

Keeping in mind that discourse is the feature of rhetoric in the study of human communication (Albaladejo, 2005) and the emotional dimension is a social need and a necessity of consultation when it comes to personality construction, the present communication demonstrates a need to study the emotional communication that a sender uses when making their case in the mass media to convince and persuade others to be consumers and achieve their goals of success, as intention and persuasion are the main characteristics of this type of communication

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**DISABILITY, COMMUNICATION, AND ONLINE ACTIVISM:  
PERCEPTIONS OF THE STUDENTS OF THE SCHOOL OF  
COMMUNICATION**

Terese Mendiguren-Galdospin  
[terese.mendiguren@ehu.eus](mailto:terese.mendiguren@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Simón Peña-Fernández  
[simon.pena@ehu.eus](mailto:simon.pena@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Koldobika Meso-Ayerdi  
[koldo.meso@ehu.eus](mailto:koldo.meso@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Ainara Larrondo-Ureta  
[ainara.larrondo@ehu.eus](mailto:ainara.larrondo@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

María Ganzabal-Learreta  
[maria.ganzabal@ehu.eus](mailto:maria.ganzabal@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Jesús Ángel Pérez-Dasilva  
[jesusangel.perez@ehu.eus](mailto:jesusangel.perez@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

Urko Peña-Alonso  
[urko.pena@ehu.eus](mailto:urko.pena@ehu.eus)  
*University of the Basque Country (UPV/EHU)*

## INTRODUCTION

The number of college students who have disabilities has increased in recent years owing to the adoption of various laws and regulations aimed at creating equal access to college education. The aim of this study is to shed light on the situation of communication students who have disabilities. They are the future communicators and therefore influential in promoting inclusion.

As initial research, descriptive data were obtained from the university's Disability Services, and feedback was collected from tutors of internship students who had disabilities. Now, the research has entered a new phase that aims to listen to students, with or without disabilities. A survey has been conducted to gather their views, and the results offer interesting insights when it comes to educational inclusion, personal relationships in the classroom, and even on sensitive topics such as hate speech. In addition, the viewpoints that students who have disabilities have regarding some of these issues differs from the viewpoints of their peers who do not have disabilities.

## STATE OF THE ART

Social networks offer people who have disabilities new opportunities to communicate, build relationships, and achieve social support (Ruhogo, 2020; Suriá, 2017; Gelfgren et al., 2022), which contributes to greater integration of those who suffer greater isolation outside the online space (Banjanin et al., 2015). YouTube, Instagram, and TikTok, in particular, have become the ideal place for activism for people who have disabilities (Lapierre, 2023), as they enable content creators themselves to think about self-representation of functional diversity (Bonilla del Río et al., 2022b). Storytelling allows them to broadcast their own voice and experience (Bitman, 2023).

Several authors present digital activism as an opportunity for the digital inclusion of people who have disabilities (Ellis and Goggin, 2018; Bonilla del

Río et al., 2021). Of particular note is research focused on digital activism aimed at protecting the rights of people with functional diversity (Auxier et al., 2019), accessibility improvements when it comes to the use of information and computer technology (ICT; Tjokrodinata et al., 2022), challenging government policy and negative stereotypes (Pearson and Trevisan, 2015), or boosting political and public participation (Mann, 2018; Trevisan, 2020), among other topics. In addition, “a change has been noted in the social discourses that claim that there is diversity in beauty and fashion” (Mañas et al., 2022: 206). Using social networks can also support positive experiences for people who have disabilities when it comes to friendships and entertainment (Bonilla del Río and Sánchez Calero, 2022), development of social identity and self-esteem, and enjoyment (Caton and Chapman, 2016).

## **METHODOLOGY**

As future players in the fabric of media, the aim was to gauge the opinion and perception of communication students regarding the barriers and advances that exist in higher education when it comes to the needs and functions that must be addressed in terms of inclusion. Through a survey sent to 130 students of the Faculty of Social Sciences and Communication of the University of the Basque Country, answers ranging from “do not agree at all” to “strongly agree” (Likert scale) were recorded in response to questions related to accessibility, training, personal relationships in the classroom, and disability activism and hate speech on social networks.

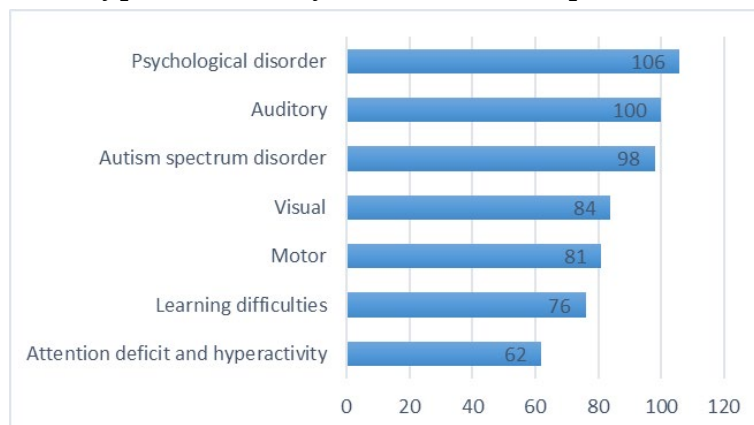
## **RESULTS**

In response to the statement “students who have disabilities are at an educational disadvantage compared with their peers who do not have disabilities”, 57.3% of the overall opinions were very much in agreement or in agreement. However, if we break down that response to specifically find out the opinion of the students who had disabilities, we found that they agreed in

a much higher proportion compared with the others. In fact, 90% of students who had disabilities agreed with that statement. Something similar happened with the following statement: “Students who have disabilities have more difficulty completing and submitting assignments”. We found a great difference between the number of people who had disabilities who agreed (80%) and students who did not have disabilities who agreed (48%). Regarding accessibility, to the statement “the School is accessible and free of architectural barriers”, 42.7% of students who had disabilities agreed, compared with 20% of students who did not have disabilities.

However, 40% of students, with or without disabilities, believed that teachers were concerned about helping create an inclusive classroom environment. This does not mean that the remaining 60% were of the opposite opinion, since there was a large percentage of neutral responses. When it came to personal relationships among peers in the classroom, students who had disabilities believed in a higher percentage (50%) that this condition does influence personal relationships. Only 31% of students who did not have disabilities agreed with this idea. Psychological disorder was the most influential for students in general, followed by hearing impairment, autism, visual impairment, motor impairment, learning difficulties, and finally attention deficit hyperactivity disorder.

Figure 1. What type of disability most influences personal relationships?



Source: Authors' own creation

Regarding having seen disrespectful behavior or hate speech, students who had disabilities reported having witnessed or having been victims of condescending treatment, with 40% of answers being affirmative, compared with 28% from students who did not have disabilities. In regard to inappropriate or disrespectful language, 50% of students who had disabilities answered in the affirmative, compared with 37% of students without functional diversity.

A higher proportion (63%) of students who had disabilities thought that activists were treated indifferently, compared with the view held by students who did not have disabilities (40%). In addition, approximately half of the respondents (54% without disabilities and 40% of students with functional diversity) believed that there was intentional derogatory treatment on social networks.

## CONCLUSIONS

The results obtained showed a clear trend regarding the discrepancy of opinions between students who had disabilities and those who did not. Viewpoints on issues related to classroom inclusion, accessibility, or personal relationships were more optimistic among the unaffected group.

We can affirm that people who had disabilities tended to notice to a greater extent the margin for improvement that exists in the approaches proposed in the survey, which in some way puts the focus on the need for empathy and, therefore, for actions of dissemination and disability activism. Furthermore, the fact that approximately half of the sample had the perception that there is deliberate derogatory behavior on social networks reveals a need to focus research on the issue of hate speech in the context of disability activism.



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## TRANSGENDER ATHLETES: SENTIMENT ANALYSIS, PROMINENT PLAYERS, AND ONLINE CONVERSATION ON TWITTER

Urko Peña-Alonso

[urko.pena@ehu.eus](mailto:urko.pena@ehu.eus)

*University of the Basque Country (UPV/EHU)*

Koldobika Meso-Ayerdi

[koldo.meso@ehu.eus](mailto:koldo.meso@ehu.eus)

*University of the Basque Country (UPV/EHU)*

Jesús Ángel Pérez-Dasilva

[jesusangel.perez@ehu.eus](mailto:jesusangel.perez@ehu.eus)

*University of the Basque Country (UPV/EHU)*

María Ganzabal-Learreta

[maria.ganzabal@ehu.eus](mailto:maria.ganzabal@ehu.eus)

*University of the Basque Country (UPV/EHU)*

### INTRODUCTION

The participation of transgender athletes in sports competitions is not a recent development; the International Olympic Committee (IOC) in 2015 had already decided to incorporate them (IOC, 2015). This has not been free of controversy and has been subject to regulatory changes by the various sports federations. This is demonstrated by the case of Leia Genis, an American cyclist who saw her first place in the 2022 US national championships withdrawn, or by the refusal to allow British cyclist Emily Bridges to participate in the national

competitions, as well. In addition to the aforementioned cases, transgender athletes have been the target of discrimination and hate speech in comments and social media posts.

In 2018, transgender athlete Rachel McKinnon reported receiving thousands of hate messages on Twitter after winning the cycling world championship (Mohan, 2022). In this regard, there are authors who emphasize the responsibility of the media and social networks when it comes to the dissemination of erroneous or manifestly false information that contributes to trans exclusion (Greedy and Lenskyj, 2022).

This research examines the specific case of American swimmer Lia Thomas, the first transgender athlete to win a National Collegiate Athletic Association (NCAA) title (Odum, 2022). Thomas became the focus of a heated debate between supporters and opponents of transgender athletes' participation in competitive women's sports.

The main objective of this research is to analyze the conversation on the social network Twitter (now X) under the hashtag #lia\_thomas. To this end, three research questions were proposed:

- RQ1. What is the overall network of the hashtag #lia\_thomas like?
- RQ2. What polarization (positive, negative, or neutral) do the messages disseminated by the various actors in the network show?
- RQ3. Who are the most influential users, and what opinions do they disseminate among their followers regarding the inclusion of transgender people in sports?

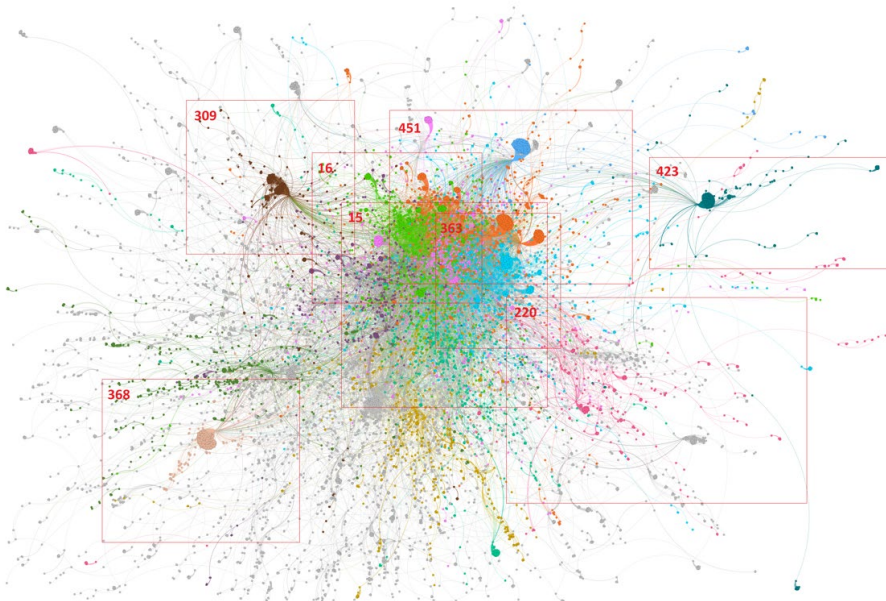
## **METHODOLOGY**

This research analyzes the digital conversation around the hashtag #lia\_thomas on the social network Twitter (now X). For its study, social network analysis

techniques were used (Freeman, 2004), wherein each actor or node represented a participant in the conversation, and each connection or edge represented an interaction (mentions, retweets, and replies) on the social network. The detection of groups and community structures was carried out using the Pajek software (Batagelj & Mrvar, 1998), applying the Louvain multilevel algorithm (Blondel et al., 2008). The study of other metrics, such as degree of entry and degree of entry centralization, made it possible to identify the most important actors in the network.

## RESULTS

Figure 1. Network relationship graph for the hashtag #lia\_thomas



Source: Authors' own creation

### *Overview of the network*

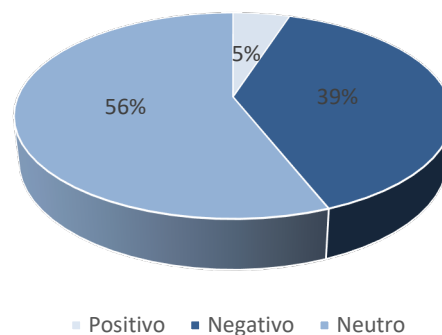
The extracted conversation contained a total of 24,442 users and 37,057 interactions. Each actor in the network was connected to an average of 1.52 other actors, which gives a scenario of low-density connectivity. Overall, a total of 1,361 different communities have been identified with a modularity of 0.813.

Five of them exceeded the threshold of 1,000 actors. Most were composed of brief exchanges of information between users. Among the communities identified, a threshold was set for those that contained at least 2% of the nodes—a total of 8—represented in Figure 1.

### *Sentiment analysis*

A look at the study of the polarization of the entire network ( $n = 24,442$ ) shows us (Figure 2) that 56% ( $n = 13,687$ ) of messages were identified as neutral, followed by 39% ( $n = 9,538$ ) for those identified as negative, in contrast with positive attitudes making up only 5% ( $n = 1,217$ ) of the total. These results show a hegemony of negative and neutral messages (95%).

*Figure 2. Distribution of feeling on Twitter*



Source: Authors' own creation

### *Main users in the network*

An analysis of the 10 most mentioned users in the network (Table 1) showed that a majority held positions against the inclusion of transgender athletes in sporting events. Among them, Sharron Davies, former British Olympic swimmer, stands out. Davies is the co-author, with journalist Craig Lord, of the

book *Unfair Play*. Among other issues, she expressed her concern that biologically male athletes are being allowed to compete in women’s events.

Another prominent user was Helen Joyce; this British journalist published the book *Trans, When Ideology Meets Reality*. In it, she argues against what she calls “gender ideology,” emphasizing the importance of biological sex in the debate over trans rights.

Finally, the only account among these top 10 that defended the inclusion of trans athletes, @lgbtqnation, received a large number of mentions censuring their pro-inclusive attitude.

*Table 1.* Network actors most frequently mentioned by users

Name	Number of mentions	Position	Description/country
sharrond62	1.105%	Against	Ex-athlete (swimmer)/UK
HJoyceGender	991	Against	Journalist/UK
FoxNews	885	Against	Generalist media outlet/USA
DavidJHarrisJr	824	Against	Influencer/USA
soggypicnic	600	Against	Influencer/USA
natalie_allison	498	Against	Journalist/USA
RandPaul	487	Against	Republican politician/USA
Outkick	391	Against	Sports Media/USA
icons_women	356	Against	NGO, lobbyist/Global
lgbtqnation	316	Pro	NGO, lobbyist/USA

Source: Authors’ own creation

## Conclusions

Broadly, we observed a online conversation network composed of brief interactions, wherein only 5 communities reached 1,000 participants. The results of the sentiment analysis underlined the predominance among active users of neutral (56%) and negative (39%) opinions, together with a limited dissemination of positive messages (5%). Finally, the majority of the most



influential users were against the inclusion of transgender athletes in sports competitions.

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**CRITICAL DIALOG IN EDUCOMMUNICATION: PEDAGOGICAL  
TOOLS TO PROMOTE CRITICAL ANALYSIS OF COMMUNICATION  
IN THE EDUCATIONAL ENVIRONMENT**

Mayte Santos-Albardia

[mayte.albardia@ehu.eus](mailto:mayte.albardia@ehu.eus)

*Universidad del País Vasco (UPV/EHU)*

**INTRODUCTION**

This paper addresses the methodological approach being implemented in the study “The critical dialog method in educommunication: Implementation and evaluation of a pedagogical tool to promote critical analysis of communication and interculturality in the educational environment”, which is currently in the data collection phase. The general objective of the research is to verify the suitability of the critical dialog method in educommunication (educommunicative tool) when it comes to encouraging critical analysis of communication and intercultural relations in the educational environment.

The object of study for this research is the focus group participants’ perceptions of news events related to migration movements as well as migrants and incidents associated with them. To achieve the general objective, media stories and speeches related to population shifts will be discussed with future educators (undergraduate students in primary education and master’s degree students in teacher training) in the context of educommunicative practices as tools capable of inspiring critical thinking.

The research will be presented in a set of publications, with the goal of publishing at least three academic articles in relevant scientific journals. The first article, entitled “Educommunication in the era of hyperconnectivity: A conceptual review: Educación libertadora para fomentar la ciudadanía crítica,” has been published in the journal *Comunicação, Mídia e Consumo*, and the second article is currently being finalized. This paper, intended for NEWSNET #4, will deal mainly with the second part of the research project, presenting the methodological approach.

#### **METHODOLOGICAL PROPOSAL**

Educommunication originated in Latin America with proponents such as Freire, Kaplún, Martín-Barbero, and Prieto Castillo; it is a branch that merges communication and education critically (Toth et al., 2012). Mario Kaplún, inspired by Freirean pedagogy, coined the term in the 1980s, initially focusing on media content and critical training through communication groups (Kaplún, 2001; 1985).

At the same time, Paulo Freire, starting in 1946, contributed to educommunication by linking analysis with dialog and communication in culture circles (Freire, 1965; 2011). At present, several authors acknowledge the educational intent of communication and the importance of promoting dialog to foster critical thinking about reality (Aparici, 2010; Guitérrez-Martín and Tyner, 2012).

Educommunication concerns two key aspects: First, it brings the media into to the educational environment, enabling media to transform schools into dialogical and interactive spaces (Alvarenga et al., 2014). Second, it aims for media communication to be educational, furthering individuals’ training in critical thinking and creating spaces for educational dialog about diverse interpretations of reality (Carias-Pérez et al., 2021; Mesquita-Romero et al., 2022).

In this paper, we focus on the dialogic branch of educommunication (rather than the technological one), seeking to understand whether dialog about the media can be a not only conducive but necessary tool in the training of future journalists and educators.

The methodological approach focuses on triangulation as a way to promote educommunication in higher education environments, as well as critical thinking and intercultural relations. For this purpose, three methods were chosen: structured surveys (quantitative), discussion groups based on the critical dialog grounded in educommunication, and qualitative interviews. The variables being observed include the degree to which media education has been implemented in the curricula, the young people's level of interaction with the media, the perception of migratory phenomena, and the media's influence on their opinions. Additional interviews will explore the implementation of media education, the concept of educommunication in academia and the media, and media education's suitability in fostering intercultural relations.

In educommunication, the critical dialog method is presented as a formative approach that has been empirically tested, highlighting two approaches: conversational dialog and critical dialog. The latter seeks to bring about changes in attitude and thinking using specific questions in a group context. This research focuses on media content related to migratory phenomena, selected from local and national media outlet, with biases having been identified in the news. In focus groups, the critical dialog method is expected to bring about changes in the participants' perceptions of cultural and migratory diversity, as measured through surveys before and after the process.

Participants include future educators/journalists, divided into at least six groups (three in journalism and three in education), and data collection is being carried out through the School of Education and the School of Social Sciences

and Communication at the University of the Basque Country (UPV/EHU). In addition, at least 10 interviews will be conducted with teachers, media professionals, and members of institutions specialized in migration, seeking geographic and gender diversity.

Data collection is in its final phase, and based on the data extracted, two articles on the research results will be prepared.

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## THE ROLE OF NEWS MEDIA IN SPREADING DISINFORMATION NARRATIVES AND THEIR IMPACT

Jaume Suau  
[jaumesm@blanquerna.url.edu](mailto:jaumesm@blanquerna.url.edu)  
*Ramon Llull University (URL)*

David Puertas-Graell  
[davidpg5@blanquerna.url.edu](mailto:davidpg5@blanquerna.url.edu)  
*Ramon Llull University (URL)*

### INTRODUCTION

In an age of increasing political polarization and populist communication styles, examples such as Cambridge Analytica or the recent Team Jorge scandal show how the spread of disinformation is used to exacerbate said political trends and shape electoral results. However, despite the vast and ever-growing literature on disinformation, its true impact on society is still unclear (Jungherr and Schroeder, 2021).

Moreover, although most research is focused on its spread through social media, there are warning signals that point toward the amplification effect of news media and journalists (Phillips, 2018). In following Zanettou et al. (2019), we suggest studying the misleading content from a holistic perspective to see how disinformation narratives are spread in multiple different formats (images, text statements, videos, etc.) and through different platforms and news media.

We provide data from a survey conducted in Spain (N=1003) in March of 2022. We associated with one of the main Spanish fact checkers, Newtral, to obtain daily information on the content of disinformation detected during the three weeks before the survey was launched. The research team analyzed the detected material to identify content that was related or belonged to similar narratives. The objective was to identify the main disinformation narratives that were being spread before the survey, instead of only isolated content, to test the scope of disinformation narratives and dissemination patterns through survey research. The results point toward the fact that disinformation narratives were spread among approximately 20-30% of the surveyed parties, with news media and journalists acting as the main agents in their dissemination.

#### **STATE OF THE ART**

The concept of "disinformation narratives" refers to fake or deceptive stories that are intentionally spread to deceive the public. These narratives exploit cognitive biases and social divisions to create a distorted or false understanding of events or issues, thereby manipulating the public opinion to serve specific interests (Lewandowsky et al., 2017).

More specifically, within the scope of disinformation studies, the concept of "narratives" is nuanced and varies depending on the focus of the research. Strand & Svensson conceive of narratives as structured stories used by foreign actors to defy established frameworks, such as human rights standards (Strand et al. 2021). Their understanding leans toward narratives as tools for ideological warfare. However, Gregor & Mlejnková see narratives as explanations offered by alternative media that deviate from the conventional story (Gregor & Mlejnková, 2023).

With this vision, narratives are not only stories, but also techniques for manipulation that include the selective selection of topics and emotional



control. Palau-Sampio & Carratalá introduce the term "pseudo-media" to describe platforms that spread narratives, imitating conventional media, but based on alternative facts (Palau-Sampio & Carratalá, 2022). Here, narratives are seen as partisan content aligned with specific ideologies, particularly framing target groups as threats. Similarly, Tkáčová focuses on the resurgence of specific anti-Semitic narratives, viewing them as inherited stories that are deeply rooted in cultural and historical contexts (Tkáčová, 2022).

As such, narratives are powerful tools to shape public opinion and mobilize social action, acting as frameworks that give meaning to complex social phenomena (Tilly, 2002). In today's hybrid media systems, disinformation narratives are produced by local and foreign actors through different creation and dissemination strategies and with different intentions or end goals. Moreover, according to Bradshaw and Howard (2018), the tactics used to influence public opinion are highly varied and spread through a wide variety of media channels, both digital and traditional. This creates a complex media landscape where journalism, political messages, and externally-financed propaganda are intricately interwoven. Additionally, when studying disinformation narratives, we must also consider the participatory nature of the disinformation.

More specifically, we must consider the role of the end recipient of the fake or misleading content, the audience, and their contribution to spreading said content (Tandoc et al. 2017). Instead of acting as passive recipients, audiences play an important role in disseminating content related to information disorders, to such an extent that some authors defend a certain participatory nature of disinformation (Asmolov 2018; Wanless and Berk 2017).

As "involuntary multitudes" (Starbird et al. 2019), audiences not only receive content, but also share it in its original form, transform it into a different format (for example, a meme), comment on it, or aggressively defend it on social media. Previous research (Starbird et al. 2019; Wilson and Starbird, 2020) have

proven that this is precisely the objective of disinformation campaigns: to go beyond the sphere of their own bots and trolls, as well as like-minded online communities, to reach other social groups and actors who are unaware of the objectives or even the existence of the original disinformation campaign. Additionally, the technological possibilities of social media platforms, as well as social practices adopted by audiences, make them perfect ecosystems for the dissemination of fake information (Masip et al. 2021). As propaganda and disinformation deceive citizens, they eventually share said content with friends and acquaintances (Flore 2020), who will be more prone to believing it, since it was shared by people they trust (Masip et al. 2021). As such, social factors, such as algorithms designed to amplify certain content, help to spread information disorders.

In this work, we therefore propose studying what the channels for distributing disinformation narratives are. In the next section, we explain the methodology we used, and then present the initial results from our study.

## **METHODOLOGY**

The methodology used in this study is similar to the methodology used by the authors in Suau and Puertas-Graell (2023). It consists of an initial stage where we decided which narratives to study, followed by the application of a survey. At this point, it is crucial that the time period between one phase and the next be as brief as possible, so that the surveyed parties still have the news they have received fresh in their minds.

To identify the most relevant disinformation narratives, we decided to study a period of three weeks, from February 14th to March 7th 2022, outside the electoral period, so we could study the disinformation narratives in a habitual context. To identify the narratives, we studied the material identified as disinformation by Spanish fact-checkers (Newtral, Maldita, and Verificat), based on the fact-checking posted on their websites.

We analyzed the fourth week on a daily basis, building a database in Excel that classified the fact-checks based on keywords and the issues addressed. In total, we collected 163 fact-checks. After completing the data compilation process, our objective was to group all the content into disinformation narratives. We shared the selection with journalists from the fact-checker Newtral, so that both the research team and the fact-checkers could work on grouping the issues related to fact-checking of disinformation narratives.

At the end of this process, we identified 6 main disinformation narratives (see table 1). The survey was launched from March 10th through 16th, with an N=1,003, with Spanish residents aged between 18 and 74 years, with an error margin of +/-3.4%, with a confidence level of 95% and  $p=q=0.5$ . We hired the survey company GESOP to conduct field work, which was carried out with the usual stratified sampling method with uniform allocation.

Table 1. Disinformation Narratives

N	Topic	Abbreviation
1	Poland, Sweden, and Norway filed a suit against the World Health Organization, accusing it of infecting Europe	WHO
2	NATO bases around Russia: image	NATO
3	Immigrant youth can collect 450 euros in rent subsidies, 250 in social benefits, plus 200 more for being immigrants. If they are "menas" (unaccompanied minors), a complement of up to 1,125 euros.	Immigration
4	The labor reform was passed by a vote cast by mistake. Since this was a mistake, it can be remedied. If the president of the parliament does not heed this request, the governing party is committing an illegal act.	Labor Reform
5	RNA-based COVID vaccines are scientific trials of unproven efficacy with side effects that have yet to be detected	Vaccines
6	The Spanish language is not taught in Catalonia's schools. Children usually finish school with a lower level than the rest of Spain	Catalan in Schools

Source: Authors' own creation

The strata are made by combining gender and age, based on 125 interviews in each one of the resulting eight strata. Within each stratum, the interviews were distributed proportionately by autonomous community and size of the municipality of residence. The survey was structured based on the aforementioned narratives. After an initial set of sociodemographic questions (including ideology, party identification, and media commitment), each narrative was presented with a set of questions: 1) whether the surveyed party has heard the narrative before, 2) whether the surveyed party agrees with the statement (1-5), 3) from which media channel or platform they heard it (if applicable), and 4) whether they had shared related content.

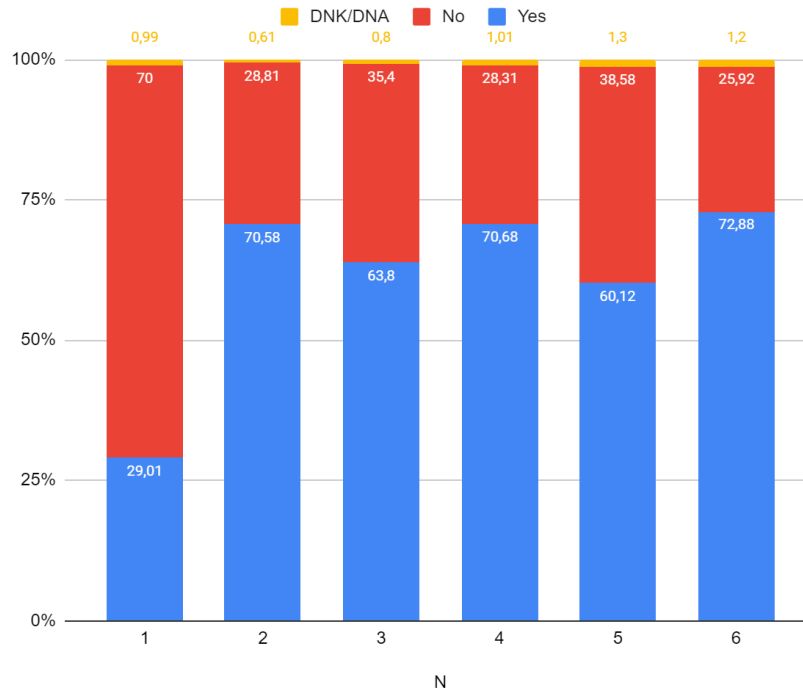
For the work at hand, we will be focusing on presenting the results related to whether the surveyed parties had received the narrative before the survey and in which format.

## **RESULTS**

The results show that disinformation narratives probably have important reach with the public, with differences between them depending on the issue addressed. This reach is greatest the more political or polarized the issue is (see figure 1). Only one of the narratives bears a limited reach (N1-OMS), received by 29% of the surveyed parties. Another two narratives (N3-Immigration and N5-Vaccines), related to immigration and disinformation on COVID, were spread to 60%. Although this is a high percentage, there were another three narratives that exceeded 70% in reach. They were N2 (NATO), N4 (labor reform), and N6 (Catalan in schools).

As such, the results showed that 5 of the 6 narratives identified were very widespread among the parties surveyed in our survey. As such, the next step is to identify how citizens were exposed to these narratives.

Figure 1. Reach of disinformation narratives



Source: Authors' own creation

Table 2 summarizes our findings here. It is important to note that, to structure the table, we grouped the different responses into six end categories. For example, the "TV" category groups both "news on TV" and "TV entertainment shows," although the latter reported almost irrelevant results. The "Social Media" category includes most common social media platforms (Twitter, Facebook, Instagram, TikTok, etc.), but also messaging applications like WhatsApp and Telegram. Finally, the "Public Conversation" category groups results from different situations like "Talking with friends or family" and "Talking at the workplace." Additionally, the "Digital" category includes both websites and traditional media as digital natives.

The table highlights the most common dissemination channel for each narrative in dark green, using lighter green for the second-most common, and lighter green for the third. As we can observe, TV is the most relevant

dissemination channel for three of the narratives (N2, N4, and N6) while Social Media dominate the other three (N1, N3, and N5). Although the role of the Press, Public Conversation, and the Radio is hardly relevant, Digital plays an important role in spreading disinformation narratives.

Although it never takes first place, it represents between 14 and 27% of the spread of disinformation narratives. Moreover, it is worth noting that the dissemination patterns bear high degrees of variability. For example, N4 (Labor Law) was heard by 60% through TV, while only 14% was through Digital and 13% through Social Media. This may be due to the fact that it was related to a political debate occurring at that time between the two main political parties in Spain. In comparison, N1 (COVID&WHO) and N3 (MENAS) display very different patterns, spread through Social Media (36 and 41%, respectively). As such, N1 seems to follow a mainly online pattern, since it also bore the highest levels in Digital (27%) and had the lowest results with TV (21%). Finally, N5 (COVID vaccines) bears the most similar results between the three most usual channels: 36% on Social Media, 32% on TV, and 19% with Digital.

*Table 2. Disinformation Narrative Distribution Channels*

N	Press	Digital	TV	Public Conversation	Radio	Social Media
1	7.2993	27.0073	21.1679	0.7299	7.6642	36.1314
2	2.276	21.093	43.854	0.607	5.615	26.555
3	3.488	18.605	28.073	3.987	4.485	41.362
4	4.1787	14.121	60.0865	0.8646	7.0605	13.6888
5	3.299	19.444	32.292	2.257	5.903	36.806
6	4.131	18.091	49.003	2.564	6.268	19.943

Source: Authors' own creation

## CONCLUSIONS

Our survey provides relevant data on the penetration of disinformation narratives in Spain. It demonstrates that most of the identified narratives were extensively spread throughout the population. In a later article (Suau and Puertas-Graell, 2023), we analyze whether this widespread reception of narratives also implies a high impact.

In other words, whether the majority of the population believes the narratives or, to the contrary, they have a low impact on public opinion. Additionally, and in introductory fashion, our study also identifies the main disinformation channels for the narratives studied. The role of television and social media is of note. As a whole, the role of news media, whether traditional or digital, cannot be underestimated. In future publications, we will develop this idea in greater depth, focusing on the degree of efficacy of each channel in terms of the impact on the population. Put differently, the capacity of each channel to convince citizens of the veracity of the disinformation narratives.

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