

Cyberjournalism and participation: taxonomy of interactivity in digital media

Ciberperiodismo y participación: taxonomía de la interactividad en los medios digitales

DOI: <https://doi.org/10.32870/cys.v2022.8192>

KELLY ROBLEDO-DIOSES¹

<https://orcid.org/0000-0003-1409-3773>

SANTIAGO TEJEDOR CALVO²

<https://orcid.org/0000-0002-5539-9800>

CRISTINA PULIDO RODRÍGUEZ³

<https://orcid.org/0000-0001-8630-7529>

GABRIEL TORRES ESPINOZA⁴

<https://orcid.org/0000-0003-2107-0932>

Digital media have enhanced the user-media-content relationship. Now the challenge for cyberjournalism is to encourage audience participation and engagement, which is why interactivity is essential. To distinguish between the types of interactivity that can be applied in journalism, we analyzed 23 publications from the world's most subscribed cybermedia. We found that the most used types of interactivity are personalization and social. But generative and navigational interactivity, with augmented reality and immersion, are almost non-existent, thus being challenges for the sector.

KEYWORDS: Cyberjournalism, cybermedia, interactivity, interactivity levels, active participation.

Los medios digitales han potenciado la relación usuario-medios-contenido. Ahora el reto del ciberperiodismo es propiciar la participación y compromiso de las audiencias, por ello la interactividad es esencial. Para distinguir entre los tipos de interactividad que se pueden aplicar en periodismo, analizamos 23 publicaciones de los cibermedios con más suscriptores en el mundo. Encontramos que los tipos de interactividad más usados son la de personalización y la social. Pero la generativa y la de navegación, con la realidad aumentada y la inmersión, son casi nulas, siendo así desafíos del sector.

PALABRAS CLAVE: Ciberperiodismo, cibermedios, interactividad, niveles de interactividad, participación activa.

As mídias digitais melhoraram a relação usuário-mídia-conteúdo. Agora o desafio do ciberjornalismo é promover a participação e o comprometimento da audiência, por isso a interatividade é essencial. Para distinguir os tipos de interatividade que podem ser aplicados no jornalismo, analisamos 23 publicações da mídia online com mais assinantes no mundo. Constatamos que os tipos de interatividade mais utilizados são a personalização e a social. Mas generativa e navegação, com realidade aumentada e imersão, são quase nulas, sendo assim desafios no setor.

PALAVRAS CHAVE: Ciberjornalismo, cibermídia, interatividade, níveis de interatividade, participação ativa.

How to cite:

Robledo-Dioses, K., Tejedor Calvo, S., Pulido Rodríguez, C. & Torres Espinoza, G. (2022). Cyberjournalism and participation: taxonomy of interactivity in digital media. *Comunicación y Sociedad*, e8192. <https://doi.org/10.32870/cys.v2022.8192>

¹ Universitat Autònoma de Barcelona, Spain.

kelly.robledo@uab.cat

² Universitat Autònoma de Barcelona, Spain.

santiago.tejedor@uab.cat

³ Universitat Autònoma de Barcelona, Spain.

cristina.pulido@uab.cat

⁴ Universidad de Guadalajara, Mexico.

gabriel.torres@udgtv.com

Submitted: 06/28/21. Accepted: 05/11/21. Published: 03/16/22.

INTRODUCTION

Multimedia journalistic narrative entails one of the greatest professional and innovation challenges for the media of the 21st century (Sánchez-García & Salaverría, 2020). In this scenario, marked by the dissolution of the differences between cultural production and consumption (Scolari, 2019), interactivity is a field of study that responds to the main challenges of communication and journalism. According to Oblak-Črnič and Jontes (2017), since interactivity began to be analyzed at an academic level in 1980, many theoretical debates have been generated. The authors distinguish three perspectives: one focused on communication and the media; another, in the public and the user; and a third, in production and journalism.

Technological evolution has generated new ways of interaction between users and devices in recent years (Tejedor et al., 2020). Journalism has been impacted by these transformations. The media is striving to redefine and reinvent its connection with the public. Along these lines, transmedia narratives encourage the participation and involvement of audiences (Mut-Camacho & Miquel-Segarra, 2019).

Authors such as Jenkins (2008), Scolari (2013), Arrojo (2015), Rodríguez-Ferrándiz and Tur-Viñes (2015), Robledo-Dioses et al. (2017) and Irala-Hortal (2019) highlight the importance of interactivity in the conception and development of transmedia content. The created story is transmitted through various media and platforms, and the public feels the need to actively participate in this narrative world. There is a co-creation of content or, as Guerrero-Pico and Scolari (2016) defend, a scenario emerges that amalgamates the classic or official production (the canon) with the production of the fans (the fandom). The great challenge is to promote scenarios where audiences get involved and commit. For this, interactivity becomes a decisive resource.

The generation of interactive spaces is linked to the development of creative and collaborative practices. Vázquez-Herrero et al. (2017) define interactivity as the “qualitative leap towards personalization, narrative expansion with user-generated content, and participation” (p. 410). The way in which the media facilitate this interactivity will promote social dialogue and will motivate or not the commitment of the

public with the stories. This is how this research seeks to answer the following questions: What types of interactivity can be apply in journalism?; and which of these can be identified in the digital media with the most subscribers in the world?

Towards a definition of interactivity

Within communication studies, the concept of interactivity is one of the most important, but also one of the most confusing and elusive (Oblak-Črnič & Jontes, 2017). Recognized as one of the intrinsic characteristics of cyberspace (Hernández-Rodríguez, 2016; Kruike-meier et al., 2015), interactivity is, together with multimedia and hypertextuality, a term that has not been fully defined.

Since the beginning of research on the internet, interactivity has emerged as an important feature of computer-mediated communication (Oblak-Črnič & Jontes, 2017). Thus, it is intertwined with the appearance and development of online journalism in the late 1990s (Young et al., 2018). According to Geidner et al. (2015), no other information media can provide an interaction like the one available on news websites. Online newspapers provide interactivity and user control derived from the non-linear structures typical of these new media (Omar, 2017). Newspaper companies have made an effort to include interactive resources in their content to differentiate them from print (Geidner et al., 2015). Despite what has been seen, there is also a conception of interactivity that transcends digital media (Tenenboim & Cohen, 2015) and that includes physical environments (Fourie, 2017; Marchionni, 2015; Rains, 2015). Beyond this, what is certain is that the irruption of algorithms in online communication and social networks completely challenges the notion of interactivity (Oblak-Črnič & Jontes, 2017).

The configuration of the new media ecosystem enhances public participation, hence the important relationship between interactivity and transmediality. For Vázquez-Herrero et al. (2019), narrative and interactivity are the two elements that give life to transmedia projects. In this sense, although content producers can maintain control over the story, it is open to variations by the public (Pineda-Martínez & Ruiz-Mora, 2019). The user can become a fan with the possibility of generating a transmedia narrative, which even affects economic and

cultural processes with which appropriations, resistance and identities are built (Bárceñas-Curtis et al., 2019).

In this study, we understand interactivity as the result of the logical management of social environments (digital and physical), technical resources, and content structuring in order to break down the barriers between the story and the public, which can be linked to the theme, the plot and the characters, and even being a part of them. And since interactivity is the result of the application of certain processes, we classify the elements that allow it as elements of interactivity. This is what Herrero-Solana and Rodríguez-Domínguez (2015) call “degrees of interactivity”; what Varas-Alarcón and González-Arias (2016) call “traits”; or “interactivity options”, according to Schultz (1999). These range from the style of writing –rhetoric of immersion (Domínguez-Martín, 2015)–, to requirements such as the use of virtual reality glasses. In this sense, the platforms that enable interactivity are part of these elements of interactivity.

In reference to these channels, in the definition of interactivity that we propose, we do not exclude social environments generated by analog media, unlike other authors (Geidner et al., 2015; Ksiazek et al., 2016; Oblak-Črnič & Jontes, 2017; Zamith, 2019), who consider online media as fundamental requirements for interactivity to exist. Analog media can also generate interactivity environments, since it seeks to eliminate the limits between receiver and transmitter/story. In this way, for example, promoting physical encounters between the public, and between it and the characters or structures of the stories, would contribute to creating a bond. Of course, with the logical limits that mark the same subject and the journalistic procedure.

Building a taxonomy of interactivity

Many authors have attempted to classify interactivity on the Internet. Jensen (1998) speaks of four dimensions of interactivity: transmission, consultative, conversational, and registration. According to the author, streaming interactivity allows the user to choose between a continuous flow of information in a one-way system; the consultative one allows to choose, upon request, among an existing selection of information produced in a bidirectional system. With conversational, the user can

produce and enter their own information in a bidirectional system, through stored content or in real-time. And with registration, the media can store user information to suit their needs. Massey and Levy (1999) develop five dimensions of interactivity: offering a wide catalog of content to the public, enabling query channels and responding to readers, allowing the public to contribute information, facilitating communication between users, and reporting recent information immediately. Rost (2006) classifies it as selective and communicative, related to the power of the public for selection, in the first case, and for expression and communication, in the second.

Chung (2008) establishes four styles of interactive presentation that consist of providing the public with various modalities of choice (media interactivity), personalized adaptation options (media/human interactivity), opinion options and personalized stories (human/media interactivity), and interpersonal communication opportunities (human-like interactivity). This classification is also used by Chung and Nah (2009), and Larsson (2011). Masip and Suau (2014) introduce three types of interactivity: selective, participatory, and productive. The first allows adapting the web content to the user's preferences; the second allows the relationship between user-user, user-professional/media, and user-content; and the third allows the collaboration of the user with the media (greater commitment). This typology has recently been used by authors such as Rivera-Rogel et al. (2016) and Suau et al. (2019).

Varas-Alarcón and González-Arias (2016), based on the study by Zúñiga and Duque (2009), establish six dimensions of interactivity: feedback (readers relate to each other and to the environment through reactions and comments), adaptability (the reading can be adapted to the user's needs), exchange (the user shares information with their peers and with the environment), links (presence of elements that allow the user to delve into the information), modifiability (the user can add information or correct existing information) and count (public record of the media in relation to interaction with the public).

Ksiazek et al. (2016) focus on interactivity in online news videos and classify it into user-content (feedback) and user-user (dialogue) interactivity. On the other hand, Vázquez-Herrero et al. (2019), in the field of fiction, speak of three levels: low (follow/subscribe, react,

share and comment on publications), medium (participate in a live video chat and talk with a character) and high (the user can decide the continuation of the story, participate in the filming, or generate their own content). Veglis and Bratsas (2017) establish three types of interactivity, a classification also used by Zamith (2019): transmission (few possibilities beyond the transmission of additional information about the elements), consultation (multiple views of the same data), and conversation (the user substantially alter the display by entering data).

In this study, based on a detailed review of the literature on the subject, the following taxonomy has been designed (Table 1).

TABLE 1
TAXONOMY OF INTERACTIVITY

Interactivity type	Description and subtypes	
Customization	Personalization of navigation and history consumption	Consultative customization Conversational personalization
Social	Dialogue/ exchange of ideas between public and public-story, in physical or virtual environments	Horizontal dialogue: between users Vertical dialogue: between producers/story and the user Diagonal dialogue: between user and characters in the story
Generative or productive	Production of content by the user	Recognized interactions/contributions: user productions recognized by the media and/or the characters, which do not alter the plot Influential interactions/contributions: user productions recognized by the media and/or the characters, which do alter the plot User Generated Content Knowledge platforms Opinion and expression platforms Creative works
Navigation	Personal experience of being part of story, as an on-site observer or as an active participant	Approach: feeling of witnessing story in person Augmented reality: sensation of bringing the story or its elements closer to the environment itself Immersion/active presence: feeling of being an active character in the story

Source: The authors based on Jensen (1998), Massey and Levy (1999), Rost (2006), Chung (2008), Chung and Nah (2009), Zuñiga and Duque (2009), Larsson (2011), Masip and Suau (2014), Ksiazek et al., (2016), Rivera-Rogel et al., (2016), Varas-Alarcón and González-Arias (2016), Veglis and Bratsas (2017), Suau et al., (2019), Vázquez-Herrero et al., (2019), and Zamith (2019).

METHODOLOGY

The research, with a descriptive, explanatory and exploratory nature, analyzes the interactivity of the cybermedia with the most subscribers in the world through a content analysis of one publication of each one. We apply the guidelines of the interpretation of texts (Andréu-Abela, 2002) to identify their basic components (López-Noguero, 2002).

Methodological design

The research selected the 25 digital media with the most paying readers worldwide in 2018 (Table 2), according to the *2018 Global Digital Subscription Snapshot* study (FIPP & CeleraOne, 2018). This report, presented by the FIPP global media network and paywall payment firm CeleraOne, is one of the most comprehensive documents on global media subscriptions produced to date.

The Norwegian newspaper *Verdens Gang* (VG) was excluded from the analysis because its website does not allow automatic translation into Spanish. Likewise, *Dagens Nyheter*, a Swedish newspaper that offers all its content under subscription made with a valid social security number from the same country, was excluded. Of the 23 media with which we worked, one journalistic product was selected from each one, according to the following criteria:

1. Belonging to the multimedia, interactive or special reports section (depending on the name of the media).
2. Combination of at least two languages (textual, visual, sound, audiovisual, graphic, dynamic, etc.).
3. Free access, except for productions from media that offer all of their content through a prior subscription, or that the section of interest for this study requires membership payment.
4. Not a live update.
5. Content published between March, 2020 and June 3rd, 2020. This study considered selecting productions published since March, the month in which it was produced in a “normal situation” (prior to the Coronavirus crisis).
6. Attention time of at least five minutes performing all the actions that involve the complete consumption of the article (read, watch, listen, interact, etc.).

TABLE 2
DIGITAL MEDIA WITH THE MOST SUBSCRIBERS IN THE WORLD IN 2018

Order	Media	Country of origin	Number of online subscribers	Monthly subscription price (\$)
1	<i>New York Times</i>	United States	2 800 000	\$8.66
2	<i>Wall Street Journal</i>	United States	1 389 000	\$36.99
3	<i>Washington Post</i>	United States	1 000 000	\$10.83
4	<i>Financial Times</i>	United Kingdom	720 000	\$36.00
5	<i>Bild</i>	Germany	390 498	\$5.83
6	<i>The Economist</i>	United Kingdom	350 000	\$10.58
7	<i>The Guardian</i>	United Kingdom	300 000	\$6.70
8	<i>Aftonbladet</i>	Sweden	250 000	\$7.00
9	<i>Times of London</i>	United Kingdom	220 000	\$27.82
10	<i>Le Monde</i>	France	160 000	\$9.72
11	<i>Verdens Gang (VG)</i>	Norway	150 000	\$7.25
12	<i>Folha de São Paulo</i>	Brazilian	150 000	\$12.80
13	<i>Mediapart</i>	France	140 000	\$10.73
14	<i>Gazeta Wyborcza</i>	Poland	133 000	\$14.85
15	<i>LA Times</i>	United States	105 000	\$8.62
16	<i>Corriere della Sera</i>	Italy	102 000	\$11.69
17	<i>The Athletic</i>	United States	100 000	\$3.99
18	<i>Clarín</i>	Argentina	100 000	\$3.65
19	<i>The Australian</i>	Australia	100 000	\$23.34
20	<i>Aftenposten</i>	Norway	100 000	\$6.00
21	<i>Dagens Nyheter</i>	Sweden	100 000	\$10.89
22	<i>Boston Globe</i>	United States	92 000	\$30.03
23	<i>Le Figaro</i>	France	84 000	\$11.69
24	<i>La Nación</i>	Argentina	82 000	\$4.92
25	<i>Welt</i>	Germany	79 992	\$23.39

Source: The authors based on FIPP and CeleraOne (2018).

After applying these filters, on the list of publications obtained in each media, the product to be analyzed was randomly selected. Table 3 lists the products that made up the final sample.

TABLE 3
PRODUCTIONS ANALYZED FROM THE CYBERMEDIA WITH THE
MOST SUBSCRIBERS IN THE WORLD

Media	Informative Product	Link
<i>New York Times</i>	Monster or Machine? A Profile of the Coronavirus at 6 Months	https://nyti.ms/2Xq9fOT
<i>Wall Street Journal</i>	Coronavirus Hit on US Economy Might Linger Until 2029; Cases in India Keep Surging	https://on.wsj.com/2ZeNK3c
<i>Washington Post</i>	As states start to reopen, here's where people are going	https://wapo.st/2BpYyn3
<i>Financial Times</i>	Coronavirus tracked: the latest figures as countries fight to contain the pandemic	https://on.ft.com/3gLGBj0
<i>Bild</i>	<i>R-Wert liegt jetzt bei 0.95</i> (R-value is now 0.95)	https://bit.ly/2BnkQ8R
<i>The Economist</i>	Geopolitics and technology threaten America's financial dominance	https://econ.st/3gLJ0dv
<i>The Guardian</i>	Donald Trump threatens to deploy army as teargas fired so he can pose at church	https://bit.ly/36RatFY
<i>Aftonbladet</i>	<i>Coronaviruset: Här är de senaste siffrorna</i> (Coronavirus: Here are the latest figures)	https://bit.ly/2z12Qk0
<i>Times of London</i>	George Floyd protests: Trump vows to send in military as riots engulf America's cities	https://bit.ly/3gHRmD3
<i>Le Monde</i>	<i>Fémicidés. Mécanique D'un Crime Annoncé</i> (Femicides. Mechanics of an Announced Crime)	https://bit.ly/2MorvC3
<i>Folha de Sao Paulo</i>	USA and China can evolve into oligarchies, says Branko Milanovi	https://bit.ly/3eMEJV9

Media	Informative Product	Link
<i>Mediapart</i>	Justice for George Floyd, for Adama Traoré, for everyone	https://bit.ly/3dzyUcP
<i>Gazetta Wyborcza</i>	<i>Na wodzie wirus nie łapie. Płyną kajakiem z Wigier do Gdańska. Zbierają pieniądze na świetlicę dla dzieci</i> (In the water, the virus does not catch. They go by kayak from Wigry to Gdańsk. They collect money for a common room for children)	https://bit.ly/31wpU67
<i>LA Times</i>	Huge, peaceful protests spread across LA and end in more arrests	https://lat.ms/300CaLa
<i>Corriere Della Sera</i>	<i>Italo Calvino, tutti i racconti in una mappa</i> (Italo Calvino, all the stories in one map)	https://bit.ly/36TEAg5
<i>The Athletic</i>	One-way system, no spitting, bring your own ball – inside PL training grounds	https://bit.ly/36Yj7mm
<i>Clarín</i>	<i>24 horas en bici con un delivery por la Ciudad de la cuarentena</i> (24 hours by bike with a delivery through the City of quarantine)	https://bit.ly/2XRjQkY
<i>The Australian</i>	Cost of beating coronavirus: recession as nation braces for worse	https://bit.ly/2B7pTe2
<i>Aftenposten</i>	<i>Det store koronamysteriet: Hvorfor blir noen steder så mye hardere rammet enn andre?</i> (The great Corona mystery: Why are some places hit so much harder than others?)	https://bit.ly/2XW4SKE
<i>Boston Globe</i>	The virus's tale	https://bit.ly/2XuJEVf
<i>Le Figaro</i>	<i>Construisons un modèle épidémiologique</i> (Let's build a epidemiological model)	https://bit.ly/3gXNM0q

Media	Informative Product	Link
<i>La Nación</i>	<i>La velocidad del coronavirus. Comparador por países</i> (The speed of the Coronavirus. Compared by countries)	https://bit.ly/3gQQHyX
<i>Welt</i>	<i>Wer macht das Rennen bei Hybrid-Messen?</i> (Who wins the race at hybrid trade fairs?)	https://bit.ly/3eliHUE

Source: The authors.

The analysis of these journalistic products was based on Table 4, created from the bibliographic review on interactivity that was carried out.

TABLE 4
TAXONOMIC ANALYSIS OF INTERACTIVITY

Variable	Category
Personalization	Consultative personalization Conversational personalization
Social	Horizontal dialogue Vertical dialogue Diagonal dialogue
Generative or productive	Recognized interactions/contributions Influential interactions/contributions User Generated Content Knowledge platforms Opinion/expression platforms Creative works
Navigation	Approximation Augmented reality Active immersion/presence

Source: The authors based on Jensen (1998), Massey and Levy (1999), Rost (2006), Chung (2008), Chung and Nah (2009), Zuñiga and Duque (2009), Larsson (2011), Masip and Suau (2014), Ksiazek et al., (2016), Rivera-Rogel et al., (2016), Varas-Alarcón and González-Arias (2016), Veglis and Bratsas (2017), Suau et al., (2019), Vázquez-Herrero et al., (2019), and Zamith (2019).

RESULTS

The application of the taxonomic model on each of the productions of the sample (Table 5) allows us to see that the totality resorts to the development of the types of interactivity of personalization and social, and only one publication to the generative/productive one. This case is that of “USA and China can evolve into oligarchies, says Branko Milanovi” from the *Folha de São Paulo* newspaper. In it, generative interactivity materializes in recognized contributions and influential interactions, based on the invitation made to the user to collaborate with their own news and notify possible errors in the publication.

TABLE 5
TYPES OF INTERACTIVITY DEVELOPED BY PRODUCTIONS

Interactivity type	Number of media that has developed it	Percentage of use in relation to the number of productions analyzed (23)
Personalization	23	100%
Social	23	100%
Generative/productive	1	4.3%
Navigation	0	0%

Source: The authors.

The analysis carried out also shows that the practices analyzed do not reach a maximum development of interactivity. Except “USA and China can evolve into oligarchies, says Branko Milanovi”, the productions do not invite the user to interact with the media through recognized or influential contributions, or the generation of their own content; and much less, reach navigation interactivity. What is missing is interactive productions that allow the user to have an approach experience to the addressed fact, or augmented reality or immersion.

The total sample analyzed develops consultative personalization interactivity (Table 6). To do this, publications resort to tactics such as reading related content (21 posts), providing the option to follow hyperlinks (19), interacting with dynamic data visualizations (10),

reading on another platform (4), deciding whether to read or listen to the footnote (2), read in two languages (1), select questions to get answers from the media (1) and read the trailer (1) or summary (1) of the post.

TABLE 6
DEVELOPMENT OF PERSONALIZATION INTERACTIVITY IN PRODUCTIONS

Personalization interactivity type	Number of productions that develop it	Percentage of use in relation to the number of productions analyzed (23)
Consultative personalization	23	100%
Conversational personalization	21	91.3%

Source: The authors.

Conversational personalization interactivity is applied in the majority of posts (91.3%). Invitation to subscribe (21 publications) and the user can save the news in their personal profile (9). It is understood that this type of interactivity is directly related to media subscription (Young et al., 2018).

TABLE 7
DEVELOPMENT OF SOCIAL INTERACTIVITY BY PRODUCTIONS

Type of social interactivity	Number of productions that develop it	Percentage of use in relation to the number of productions analyzed (23)
Horizontal dialogue	23	100%
Vertical dialogue	20	86.9%
Diagonal dialogue	1	4.3%

Source: The authors.

All of the productions analyzed develop social interactivity that allows the generation of horizontal dialogue (Table 7). That is, they offer the option to comment on the content on the website itself and also

to share the news on social networks, and thus extend the discussion around the topic. Likewise, most of the publications (86.9%) facilitate the generation of vertical dialogue, thanks to the option to comment and, in some cases, the option to directly contact the author of the journalistic product, since, together with the name, it offers their contact details. One particular case provides the opportunity to rate the story as *meh*, *solid* or *awesome* (“One-way system, no spitting, bring your own ball – inside PL training grounds”), and another gives the option to report bugs (“USA and China can evolve into oligarchies, says Branko Milanovi”). Regarding the interactivity that leaves open the possibility of diagonal dialogue, it is only used in one of the publications: “In the water, the virus does not catch. They go by kayak from Wigry to Gdańsk. They collect money for a common room for children” from *Gazeta Wyborcza*. This production invites readers to provide financial support to the protagonists of the story.

REFLECTION AND DISCUSSION

Based on the list of digital media with the largest number of subscribers worldwide, we selected 23 journalistic productions to analyze their interactivity management. The totality resorts to social interactivity and personalization interactivity. Regarding the first, we find precedents in research such as that of Suau et al. (2019), who, when studying the attitudes of Spanish citizens in relation to the participatory options offered by media websites, found that the majority of participants are attracted to participatory interactivity formats.

Relating social interactivity to that of personalization, we find the reflection of Krebs and Lischka (2019): “A greater motivation for social-interactive use is positively related to greater public participation and a frequency of personalization” (p. 723). It is logical that spaces that promote dialogue between the public, and public-producers/characters of the stories, result in greater participation; and also involve personalization processes, even more so of the conversational type, since a greater relationship with the media begins to take shape, which can take the form of actions such as subscriptions. A point that leads to an exchange of data in favor of a more personalized content offer.

Along the lines of personalization interactivity, but this time of a consultative nature, giving audiences options to personalize their consumption experience is also very important because, in addition to improving user enjoyment (Zamith, 2019), to a certain extent they are made an active participant and responsible for how they consume. In this sense, current technologies are good allies to generate this type of personalization. And although studies such as those by Appelgren and Salaverría (2019) point out, for example, that now data journalists are abandoning interactivity “returning to linear forms of content presentation” (p. 641) –what is understood, does not give them an opportunity to the public to decide how they want to do better with the content–, we consider it valuable to promote this type of interactivity.

Regarding generative interactivity, the study shows that only one of the analyzed publications uses it (“USA and China can evolve into oligarchies, says Branko Milanovi”). This makes us reflect on how the media involve users in the generation of content. It is necessary to look with real interest and make the journalist-reader collaborative practice a reality, in a process in which the contributions of both are intertwined, being clear that what makes the difference between both tasks are the values and code of ethics of journalism professionals (Hujanen, 2016). This collaboration can lead to “products related to user impulses, such as tweet interviews or group cyberinterviews; and the integration of these in the narratives, for example, by mentioning the sources taken from the Internet” (Barredo-Ibáñez et al., 2019, p. 12).

Navigation interactivity, on the other hand, has not been achieved in any of the analyzed publications. And although the development of technologies that allow this type of interactivity (virtual reality being its maximum expression) implies greater expenses, media such as those analyzed could allow themselves to generate productions of this type. Although until a few years ago immersive productions were an emerging trend in the journalistic field (Domínguez-Martín, 2015), narratives such as gamified ones are now becoming common “in order to enhance the interactivity of their product” (González-Díez et al., 2019, p. 53).

From what has been explained, we see that, indeed, interactivity is a practice of its own to continue under the deployment of a transmedia

content logic. The basic points of a transmedia narration converge here: the logical use of various media and platforms, and the opportunity that thanks to these the public develops an active, creative, and conscious participation in relation to the story addressed.

CONCLUSIONS

It is understood that interactivity can be evidenced at different levels depending on the purpose of the producers, the target audience, the management of the content and the platforms, and the context in which it takes place. For this reason, this study proposed the construction of a taxonomy of interactivity in journalism based on a bibliographic review, which shed light on academic research in the field and previous efforts to classify interactivity. Thus, we established four types: personalization interactivity, which includes consultative and conversational; social interactivity, which encompasses horizontal, vertical, and diagonal dialogues; generative or productive interactivity, which considers recognized interactions/contributions, influencers, and user-generated content; and navigation interactivity, which can be approach, augmented reality or immersion/active presence.

The analysis applied to the 23 journalistic productions that make up the sample, coming from the digital media with the most subscribers in the world, showed that the types of interactivity most used in publications are personalization and social. This shows that they do not reach the maximum development of interactivity, since they do not generate productions that, for example, directly invite the user to generate their own content or that offer them an experience of active participation in an event through the use of virtual reality. There is a lack of promoting interactive spaces that arouse interest and that seek to expand the content through collaborative exercises with the user.

We consider that the results obtained are contributions at a theoretical and practical level, which serve to have an approximation of how the interactive transmedia narrative is being implemented in the digital journalistic industry. In this way, the taxonomic model raised on interactivity can be used to analyze and understand cases of this type and even undertake new ones. We recognize, however, that research

can always improve. Thus, for example, the analysis sample of this work could have been broader, taking more products from each media, covering more thematic diversity and journalistic genres to obtain richer and deeper findings. Likewise, the developed content analysis tables can also evolve into measurement systems that imply giving ratings to the productions.

In this sense, we also consider future lines of research that give continuity to the one undertaken here. We believe that it is worthwhile to study the transmedia management of interactive content from the perspective of the producers and delve into the content generation process. We also consider it valuable that studies are carried out focused on the implications and rewards of the application of transmedia storytelling and interactivity at a business level (resulting business models), at a professional level (practical skills required of the informant), and at a level of the audiences (intellectual acquisitions thanks to the consumption of this type of production, media skills that must be counted on and, even, the level of loyalty that can be developed with the media).

Bibliographic references

- Andréu-Abela, J. (2002). *Las técnicas de análisis de contenido: una revisión actualizada*. Fundación Centro de Estudios Andaluces.
- Appelgren, E. & Salaverría, R. (2019). Interacting, but not contributing: fruitless news crowdsourcing in Spain. *Estudios sobre el Mensaje Periodístico*, 25(2), 639-655. <https://doi.org/10.5209/esmp.64792>
- Arrojo, M. J. (2015). Los contenidos transmedia y la renovación de formatos periodísticos: la creatividad en el diseño de nuevas propuestas informativas. *Palabra Clave*, 18(3), 746-787. <https://doi.org/10.5294/pacla.2015.18.3.6>
- Bárceñas Curtis, C., Lemus Pool, M. C. & Governatore Moreno, H. M. (2019). Videojuegos MOBA como fenómeno transmedia. El caso *League of Legends* como proceso de conformación de identidades, resistencias y agencias. *Caracteres. Estudios Culturales y Críticos de la Esfera Digital*, 8(1), 92-118. <https://bit.ly/3ISDzXp>
- Barredo Ibáñez, D., Pinto Garzón, K. T., Freundt-Thurne, Ú. & Me-dranda Morales, N. (2019). Interactivity in cybermedia news: An

- interview with journalists in Colombia, Peru, and Ecuador. *Information*, 10(5), 1-14. <https://doi.org/10.3390/info10050173>
- Chung, D. (2008). Interactive Features of Online Newspapers: Identifying Patterns and Predicting Use of Engaged Readers. *Journal of Computer-Mediated Communication*, 13, 658-679. <https://doi.org/10.1111/j.1083-6101.2008.00414.x>
- Chung, D. & Nah, S. (2009). The Effects of Interactive News Presentation on Perceived User Satisfaction of Online Community Newspapers. *Journal of Computer-Mediated Communication*, 14(4), 855-874. <https://doi.org/10.1111/j.1083-6101.2009.01473.x>
- Domínguez-Martín, E. (2015). Periodismo inmersivo o cómo la realidad virtual y el videojuego influyen en la interfaz e interactividad del relato de actualidad. *El Profesional de la Información*, 24(4), 413-423. <https://doi.org/10.3145/epi.2015.jul.08>
- FIPP & CeleraOne. (2018). *2018 Global Digital Subscription Snapshot*. <https://bit.ly/39O2n1Y>
- Fourie, P. J. (2017). Normative media theory in the digital media landscape: from media ethics to ethical communication. *Communicatio. South African Journal for Communication Theory and Research*, 43(2), 109-127. <https://doi.org/10.1080/02500167.2017.1331927>
- Geidner, N., Pjesivac, I., Imre, I., Coman, I. & Yuran, D. (2015). The Role of Interactive Graphics in Reducing Misperceptions in the Electorate. *Visual Communication Quarterly*, 22(3), 133-145. <https://doi.org/10.1080/15551393.2015.1069195>
- González-Díez, L., Labarga-Adán, I. & Pérez-Cuadrado, P. (2019). Gamificación y elementos propios del juego en revistas nativas digitales: el caso de MARCA Plus. *Revista de Comunicación*, 18(1), 52-72. <https://doi.org/10.26441/RC18.1-2019-A3>
- Guerrero-Pico, M. & Scolari, C. (2016). Narrativas transmedia y contenidos generados por los usuarios: El caso de los crossovers. *Cuadernos.Info*, 38, 183-200. <https://doi.org/10.7764/cdi.38.760>
- Hernández Rodríguez, J. C. (2016). Interactividad y socialización periodística en Twitter. Un análisis de los medios migrantes colombianos de mayor influencia online. *Estudios sobre el Mensaje Periodístico*, 22(2), 1065-1083. <https://doi.org/10.5209/ESMP.54252>

- Herrero-Solana, V. & Rodríguez-Domínguez, A. M. (2015). Periodismo de datos, infografía y visualización de la información: un estudio de El País, El Mundo. *BiD: Textos Universitaris de Biblioteconomia i Documentació*, 34, 1-10. <https://doi.org/10.1344/BiD2015.34.5>
- Hujanen, J. (2016). Participation and the Blurring Values of Journalism. *Journalism Studies*, 17(7), 871-880. <https://doi.org/10.1080/1461670X.2016.1171164>
- Irala-Hortal, P. (2019). La industria artística en el entorno transmedia de las redes sociales. Primeras aproximaciones. *Quintana: Revista do Departamento de Historia da Arte*, 18, 217-230. <https://doi.org/10.15304/qui.18.5477>
- Jenkins, H. (2008). *Convergence Culture. La cultura de la convergencia de los medios de comunicación*. Paidós.
- Jensen, J. (1998). Interactivity. Tracking a new concept in media and communication studies. *Nordicom Review*, 19(1), 185-204. <https://bit.ly/3rztJlq>
- Krebs, I. & Lischka, J. A. (2019). Is audience engagement worth the buzz? The value of audience engagement, comment reading, and content for online news brands. *Journalism*, 20(6), 714-732. <https://doi.org/10.1177/1464884916689277>
- Kruikemeier, S., Aparaschivei, A. P., Boomgaarden, H. G., Van Noort, G. & Vliegenthart, R. (2015). Party and Candidate Websites: A Comparative Explanatory Analysis. *Mass Communication and Society*, 18(6), 821-850. <https://doi.org/10.1080/15205436.2015.1051233>
- Ksiazek, T. B., Peer, L. & Lessard, K. (2016). User engagement with online news: Conceptualizing interactivity and exploring the relationship between online news videos and user comments. *New Media and Society*, 18(3), 502-520. <https://doi.org/10.1177/1461444814545073>
- Larsson, A. O. (2011). Interactive to me – interactive to you? A study of use and appreciation of interactivity on Swedish newspaper websites. *New Media & Society*, 13(7), 1180-1197. <https://doi.org/10.1177/1461444811401254>
- López-Noguero, F. (2002). El análisis de contenido como método de investigación. *XXI: Revista de Educación*, 4, 167-179. <https://bit.ly/2THOuyL>

- Marchionni, D. (2015). Journalism-as-a-conversation: An experimental test of socio-psychological/technological dimensions in journalist-citizen collaborations. *Journalism*, 16(2), 218-237. <https://doi.org/10.1177/1464884913509783>
- Masip, P. & Suau, J. (2014). Audiencias activas y modelos de participación en los medios de comunicación españoles. *Hipertext.net*, (12). <https://raco.cat/index.php/Hipertext/article/view/274308>
- Massey, B. & Levy, M. (1999). 'Interactive' Online Journalism at English-Language Web Newspapers in Asia: A Dependency Theory Analysis. *International Communication Gazette*, 6(6), 523-538. <https://doi.org/10.1177/0016549299061006005>
- Mut Camacho, M. & Miquel Segarra, S. (2019). La narrativa transmedia aplicada a la comunicación corporativa. *Revista de Comunicación*, 18(2), 225-244. <https://doi.org/10.26441/RC18.2-2019-A11>
- Oblak Črnič, T. & Jontes, D. (2017). (R)evolution of Perspectives on Interactivity: from a Media-Centered to a Journalist-Centered Approach. *Medijske Studije*, 8(15), 39-55. <https://doi.org/10.20901/ms.8.15.4>
- Omar, B. (2017). Online news production, consumption and immediacy: The remediation perspective. *Jurnal Komunikasi: Malaysian Journal of Communication*, 33(3), 250-266. <https://doi.org/10.17576/JKMJC-2017-3303-15>
- Pineda-Martínez, P. & Ruiz-Mora, I. (2019). Comunicación interna y narrativas transmedia, nuevas estrategias para la empresa responsable. Estudio de caso de Telefónica. *El Profesional de la Información*, 28(5), 1-12. <https://doi.org/10.3145/epi.2019.sep.24>
- Rains, S. (2015). Going in for competitions: Active readers and magazine culture, 1900-1910. *Media History*, 21(2), 138-149. <https://doi.org/10.1080/13688804.2014.995611>
- Regalado, F., Costa, L. V. & Veloso, A. I. (2021). Online News and Gamification Habits in Late Adulthood: A Survey. In *International Conference on Human-Computer Interaction HCII 2021: Human Aspects of IT for the Aged Population. Technology Design and Acceptance* (pp. 405-419). Springer. https://doi.org/10.1007/978-3-030-78108-8_30
- Rivera-Rogel, D., Carrión-Salinas, G. & Córdova-Camacho, J. (2016). Contribution of users in building digital content in the mainstream

- media of the Andean community. *Revista Latina de Comunicación Social*, 71, 1131-1150. <https://doi.org/10.4185/RLCS-2016-1138>
- Robledo Dioses, K., Atarama Rojas, T. & Palomino Moreno, H. (2017). De la comunicación multimedia a la comunicación transmedia: una revisión teórica sobre las actuales narrativas periodísticas. *Estudios sobre el Mensaje Periodístico*, 23(1), 223-240. <https://doi.org/10.5209/ESMP.55593>
- Rodríguez Ferrándiz, R. & Tur Viñes, V. (Eds.). (2015). *Cuadernos Artesanos de Comunicación*, 81. *Narraciones sin fronteras: transmedia storytelling en la ficción, la información, el documental y el activismo social y político*. Sociedad Latina de Comunicación Social. <https://doi.org/10.4185/cac81>
- Rost, A. (2006). *La interactividad en el periódico digital* [Tesis doctoral inédita]. Universitat Autònoma de Barcelona. <https://bit.ly/3itzZsY>
- Sánchez-García, P. & Salaverría, R. (2019). Multimedia news storytelling: Semiotic-narratological foundations. *El Profesional de la Información*, 28(3), e280303. <https://doi.org/10.3145/epi.2019.may.03>
- Schultz, T. (1999). Interactive Options in Online Journalism: a Content Analysis of 100 U.S. Newspapers. *Journal of Computer-Mediated Communication*, 5(1), JCMC513. <https://doi.org/10.1111/j.1083-6101.1999.tb00331.x>
- Scolari, C. (2013). *Narrativas Transmedia: Cuando todos los medios cuentan*. Deusto.
- Scolari, C. (2019). Narrativas transmedia, nuevos alfabetismos y prácticas de creación textual. Conflictos y tensiones en la nueva ecología de la comunicación. In *Lectoescritura digital* (pp. 45-52). Ministerio de Educación y Formación Profesional.
- Suau, J., Masip, P. & Ruiz, C. (2019). Missing the Big Wave: Citizens' Discourses Against the Participatory Formats Adopted by News Media. *Journalism Practice*, 13(10), 1316-1332. <https://doi.org/10.1080/17512786.2019.1591928>
- Tejedor, S., Ventín, A., Cervi, L., Pulido, C. & Tusa, F. (2020). Native Media and Business Models: Comparative Study of 14 Successful Experiences in Latin America. *Media and Communication*, 8(2), 146-158. <https://doi.org/10.17645/mac.v8i2.2712>

- Tenenboim, O. & Cohen, A. A. (2015). What prompts users to click and comment: A longitudinal study of online news. *Journalism*, 16(2), 198-217. <https://doi.org/10.1177/1464884913513996>
- Trillo-Domínguez, M. & Alberich-Pascual, J. (2020). Análisis y tipificación de formatos emergentes en el ciberperiodismo español: de la adaptación multimedia a la disrupción transmedia. *Estudios sobre el Mensaje Periodístico*, 26(1), 367-375. <https://doi.org/10.5209/esmp.67317>
- Varas-Alarcón, M. & González Arias, C. (2016). Interactividad en sitios web de medios: Buscando nuevas formas de diálogo con sus usuarios. *Estudios sobre el Mensaje Periodístico*, 22(1), 549-566. https://doi.org/10.5209/rev_ESMP.2016.v22.n1.52613
- Vázquez-Herrero, J., Negreira-Rey, M. & Pereira-Fariña, X. (2017). Contribuciones del documental interactivo a la renovación de las narrativas periodísticas: realidades y desafíos. *Revista Latina de Comunicación Social*, (72), 397-414. <https://doi.org/10.4185/RLCS-2017-1171>
- Vázquez-Herrero, J., González-Neira, A. & Quintas-Froufe, N. (2019). La audiencia activa en la ficción transmedia: plataformas, interactividad y medición. *Revista Latina de Comunicación Social*, (74), 73-93. <https://doi.org/10.4185/RLCS-2019-1322>
- Veglis, A. & Bratsas, C. (2017). Towards A Taxonomy of Data Journalism. *Journal of Media Critiques*, (3), 109-121. <https://doi.org/10.17349/jmc117309>
- Young, M. L., Hermida, A. & Fulda, J. (2018). What Makes for Great Data Journalism?: A content analysis of data journalism awards finalists 2012-2015. *Journalism Practice*, 12(1), 115-135. <https://doi.org/10.1080/17512786.2016.1270171>
- Zamith, R. (2019). Transparency, Interactivity, Diversity, and Information Provenance in Everyday Data Journalism. *Digital Journalism*, 7(4), 470-489. <https://doi.org/10.1080/21670811.2018.1554409>
- Zúñiga, D. & Duque, A. (2009). Las herramientas interactivas de dos diarios colombianos. *Signo y Pensamiento*, 38(54), 330-340. <https://bit.ly/2Sd0KHp>