When journalism and games intersect: Examining news quality, design and mechanics of political newsgames

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Abstract

The use of games to convey the news involves wrestling with two different narrative logics: the professional culture of journalism, based on the verification of information and the standards of objectivity and truthfulness, and the culture of games, characterized by the creation of imaginary worlds, the persuasive potential of entertainment and the mechanics of the gaming experience. This article examines a sample of eight newsgame designs and the mechanisms through which they transmit information on issues related to political activity. We designed a qualitative analysis tool to examine the journalistic and gaming quality of the newsgames by analysing 28 parameters in four categories: formal parameters, content parameters, quality of use and architecture and design. Our results show that the use of playful elements is compatible with the fulfilment of journalistic quality standards and the choice of mechanics and dynamics determines how the user perceives and interacts with the information. However, the balance between both aspects does not guarantee that a newsgame provides the narrative resources to understand the information autonomously. Thus, newsgames are a genre with great journalistic potential when using the correct choice of mechanics and dynamics that allows communicating information according to news standards.

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Newsgames: A contested genre with potential for journalism

Journalism faces a transition period in which many media outlets seek to innovate in content production to redefine their role in the public discourse. In a news landscape in which barriers between producers and consumers are increasingly blurred (Ferrer-Conill, 2016), digital media outlets have incorporated interactivity, hypertext and user participation into their content. In this context, new forms of expression influenced by the narrative and aesthetics of video games have emerged, including newsgames, which take their reference from videogames and journalism to show information in an immersive, playful and participative way (Treanor and Mateas, 2009).

Although prestigious media outlets (*The Guardian*, *BBC*, *The New York Times*, *Le Monde*) have implemented gamified narratives, media professionals and academics discuss the journalistic quality of this genre. Many scholars favour the use of newsgames in journalism. Wiehl (2014: 2) argues that these games have the potential 'for exploring intricate interdependencies, to adequately present complex facts, to make qualified arguments and to stimulate critical thoughts' because they provide 'more options of informing, sense-making, storytelling and persuasion than simply remediating 'old' forms of news production'. In addition, newsgames allow young people, who are increasingly less interested in the news, to connect with important issues and to be aware of their implications (Lai, 2015).

However, other studies question the supposed effectiveness of newsgames. According to Nolan (2003), games are not an appropriate means of transmitting current information, since there are 'major disparities between the purposes, structures, and ethics' (2003: 4) of games and digital media. Burton (2005) argues that the main difference lies in the way in which each genre processes and constructs the information. While an editorial process forms part of news production, to find and elaborate the most relevant information possible in its context, most of the current news-based games 'present a seamless "walkthrough" of news or historical event from a single perspective' (Burton, 2005: 91). According to Burton (2005), newsgames present two main limitations: (1) most of them run the risk of mis-representing or distorting facts by simplifying their content, and (2) they cannot fully explain the events they are based on and depend on the player's prior knowledge of the issues to be addressed.

The journalism sector also presents conflicting opinions regarding the usefulness of newsgames. Some journalists and editors argue that the genre might encourage user participation (Edge, 2014), improve engagement (Albeanu, 2016) and help people break down complex systems (Mello-Klein, 2017). However, other journalists and news organizations hold reservations about the use of gamification and playful narratives in news coverage (Foxman, 2017), and they criticize the incorporation of game elements into investigative and hard news, as this may trivialize and diminish its credibility (Foxman, 2015).

Studies on the usability of newsgames, though still scarce, focus on the analysis of reception and conclude that users do not improve their knowledge of the topics covered. Wolf and Godulla (2018: 16) found that users did not recognize the communicated messages, did not find them interesting or wanted to share them and concluded that 'newsgames bring no benefits for journalism or the information it provides'. Through a methodology based on qualitative interviews with newsgame players, from the perspective of uses and gratifications research, Meier (2018: 440) raised 'ethical misgivings' as to whether newsgames should address serious issues and identified the difficulty for users in empathizing with complex issues.

However, one aspect is absent in the research: none of the newsgames works in a similar way nor are they designed with the same objective. There are simple mechanics games whose aim is to encourage debate around a topical issue (*President Evil*, 2017; *September 12th*, 2003). Others, in contrast, employ complex mechanics and dynamics with the aim of explaining an event in a

practical way (*Syrian Journey*, 2015) or a complex process (*Predict the President*, 2016; *The Uber Game*, 2017). The choice of different playful and informative strategies influences the way in which the user perceives and interacts with the information.

This article examines newsgame designs and the mechanisms through which they transmit information and opinion on issues related to political activity such as electoral campaigns, government management or corruption and how political actors and their actions are represented. Our main argument is that an intelligently designed newsgame that balances formal components and informative content and that has an appropriate architecture and game mechanics can reinforce journalistic values. In this way, a balanced and effective design can contribute to a better understanding of matters of public interest, such as election campaigns or political corruption.

We pose three research questions:

1. Do political newsgames meet the standards both of news quality and game quality?
2. Is there a balance between the playful and informative components of political newsgames or does one predominate over the other?
3. Do political newsgames provide adequate narrative resources to explain the information they provide?

Integrating news values in the mechanics and design of newsgames

Using games to convey the news involves wrestling with two different narrative logics that follow opposing approaches: on the one hand, the professional culture of journalism, based on the verification of information and the standards of objectivity and truthfulness and, on the other, the culture of games, characterized by the creation of fictions and imaginary worlds, the persuasive potential of entertainment and the mechanics that satisfy the gaming experience (Foxman, 2017). The question arises therefore of the ability of newsgames to represent the complexity of an event and to show its implications or, in turn, to trivialize it by reducing it to a form of entertainment and enhancing playability to the detriment of journalistic values.

From the perspective of the game, newsgames combine content designed to be played with and the use of rewards and gamified systems that encourage users to become emotionally involved and to want to win. The basic objectives of the genre are to achieve user engagement and encourage gaming dynamics that generate satisfaction with the game. As Flanagan and Nissenbaum (2014) argue, the multiple options and perspectives offered by games, as well as their mechanics and rhetorical structures, contribute to reinforcing the ideology and values promoted by the producers. This could also be the case of some newsgames, where their design and mechanics tend to reinforce certain values at the expense of journalistic balance or objectivity, impartiality and ethics.

According to Sicart (2008), newsgames are not and should not be ideologically neutral. Like any other form of discourse addressed to the public, newsgames have an editorial line that is presented as arguments, not as truth. The aim is to participate in the public sphere with arguments that illustrate perspectives about the news through procedural rhetoric, which refers to 'the practice of authoring arguments through processes' (Bogost, 2007: 29), in the same way that visual rhetoric uses images and verbal rhetoric, oratory. Procedural rhetoric can be used both persuasively – to change opinion or action – and expressively – to convey ideas effectively (Bogost, 2007: 29–30).

Unlike other journalistic genres in which the editorial line is evident in the treatment of information, newsgames transmit their arguments using mechanics – rules, norms and patterns that

determine the game experience – and dynamics – 'the run-time behavior of the mechanics acting on player inputs and each others' outputs over time' (Hunicke et al., 2004: 2). Therefore, the way in which the news is translated into game systems determines the editorial line of the genre (Sicart, 2008). Along the same line, Treanor and Mateas (2009) build on the original definition proposed by Frasca (2001) ('simulation meets political cartoon') to analyse the editorial component of newsgames from the perspective of political cartoons. Their study reflects how, through procedural rhetoric, a designer can intentionally establish a set of rules to create a game that can represent an editorial stance better than political cartoons or newspaper editorials.

Sicart (2008) and Treanor and Mateas (2009) focus on the production of some of the first newsgames (*Kabul Kaboom!*, 2002; *Madrid*, 2003; *So you think you can drive, Mel?* 2006), whose approach is clearly editorial. Since the launching of *September 12th* (2003), considered one of the first newsgames in history, the genre has evolved into more complex narrative forms. Some projects, such as *Stairway to (tax) heaven* (2016) and *7 ways to defy death* (2015), include complex information and arguments that allow users to expand their knowledge of a current topic. In this regard, Plewe and Fürsich (2018: 3) claim that, in spite of including rules and mechanics that reflect the opinion of the designers, newsgames do not have to be limited to the role of political cartoon or editorial comment, because they 'can also provide contextual information in the way journalistic documentaries or features could'.

From an ethical point of view, one of the main concerns lies in deciding which topics are appropriate for playful treatment. Through a methodology based on interviews with professionals, academics and video game designers, Foxman (2017: 5) identifies a certain reluctance by journalists and academics regarding the use of game design elements in journalistic content, especially when it comes to issues surrounding danger and death. Along the same line, after conducting qualitative interviews with newsgame players, Meier (2018) identified 'ethical misgivings' about whether newsgames should address serious issues. The main criticism is that game elements cannot reflect reality as it is, but that they provide a simplified version of it (Meier, 2018: 438).

Nevertheless, newsgames have also shown great potential in generating empathy and creating awareness of current issues. According to Plewe and Fürsich (2018), using game mechanics to represent complex situations may encourage the development of empathy and allow users to gain a better understanding of the situation. In the case of newsgames that deal with immigration, the use of game mechanics 'successfully triggered empathy, opened up perspectives on the complexity of geopolitical interrelations, disrupted representations of Others, and augmented news journalism with added content and multiple perspectives' (Plewe and Fürsich, 2018: 14). In this regard, newsgames open the door to the awareness of serious problems, such as political corruption, climate change or human trafficking.

This article analyses the genre of political newsgames, critically examining their journalistic quality and their level of game design, to respond to our three research questions. We studied how in political newsgames information about the relevant issues is constructed through interaction with the game system. To obtain useful and reliable data, we employ qualitative and quantitative methods, which are presented in the next section.

Research design and methodology

First, we generated a database of newsgames produced between 2000 and 2018; it comprised a total of 160 newsgames from 25 different countries.[1] Each item was coded following a set of parameters: year of production, producer, country, title, main topic and its URL. Our database

Table 1. Political newsgames selected for the sample.

Title	News organization	Release year	Country	Production area	Topic	Mechanics
Dans la peau d'un bourgmestre	L'avenir.net	2018	Belgium	North Europe	Elections	Choose your own adventure/resource management
Jogo Eleitoral	Globo	2018	Brazil	South America	Elections	Quiz
Objectif Budget	Le Figaro	2017	France	South Europe	State budgets	Simulation/resource management
Pick your own Brexit	Bloomberg	2018	USA	North America	Brexit	Choose your own adventure
Predict the President	BBC	2016	UK	North Europe	Elections	Statistics
Reto Carondelet	GKillCity	2017	Ecuador	South America	State budgets	Simulation/resource management
The Good, the Bad and the Accountant	El Confidencial	2017	Spain	South Europe	Political corruption	Choose your own adventure/resource management
The voter suppression trail	The New York Times	2016	USA	North America	Elections	Choose your own adventure/arcade

Source: Authors.

provided a worldwide sample of newsgames. The United States is the main producer, with 38.75% of the total, followed by the United Kingdom (11.25%), France (10%), Brazil (8.12%) and Spain (5%). Most newsgames are produced in North America (40.88%), North Europe (22.64%), South Europe (16.98%) and South America (13.83%), while production in Asia (3.77%) and Oceania (1.8%) is practically non-existent. Of the 160 newsgames, we identified 31 related to politics.

Considering the main production areas, we chose a sample of eight political newsgames from media companies in North and South Europe, North and South America, two from each geographical area. The sample was selected according to five criteria: geographic diversity and the proportional representativeness of the production area, that the production was run by a media outlet, that the newsgame was produced within the last 4 years, that it was active at the time of analysis and that it achieved notoriety in its reference market. These eight cases embody diverse journalism backgrounds, covering examples from different countries and with a variety of gamified approaches and mechanics, thus providing an understanding of this genre (Table 1).

Here, we briefly introduce the newsgames selected for the sample:

1. *Dans la peau d'un bourgmestre*. L'avenir.net (2018) Belgium

Users put themselves in the shoes of a mayor and make the decisions to be re-elected in the 2018 municipal elections in Belgium. The newsgame has three levels of difficulty based on the cities of Ruman, Housty-sur-Meuse, and Blangville.

2. *Jogo Eleitoral.* Globo (2018) Brazil

Inspired by the Brazilian 2018 general elections, this infographic newsgame challenges the user with a series of questions about the election contest. The aim is to discover which candidate users share most political ideas with according to their decisions.

3. *Objectif budget.* Le Figaro (2017) France

This newsgame deals with the annual budgets of France. The player assumes the role of Minister of Action and Public Accounts to prepare the 2018 budgets based on a single requirement: achieve savings of 10 billion euros by reducing the budget deficit from 3% to 2.7%. Users must decide in which areas to introduce cuts and what measures to implement.

4. *Pick your own Brexit*. Bloomberg (2018) USA

An 8-bit aesthetics newsgame based on the negotiations surrounding the departure of the United Kingdom from the European Union. According to Rob Hutton, Bloomberg's UK political correspondent and one of the producers, the objective is to explain the complexities and dichotomies of Brexit through a narrative inspired by the 'Choose Your Own Adventure' games (Deighton, 2018), in which the player's decisions change the course of the story.

5. *Predict the President*. BBC (2016) UK

Based on the 2016 US elections, this newsgame challenges the user to predict who will win the undecided states and, therefore, the US presidency. With an infographic aesthetic, it provides statistical, historical and demographic data.

6. *Reto Carondelet.* GKillCity (2017) Ecuador

Reto Carondelet addresses the presidential elections in Ecuador through a resource management system. The player must reduce Ecuador's deficit, making budget cuts without being overthrown. Isabella Ponce, cofounder of GKillCity, says that the objective is to show 'the real magnitude' of the politicians' decisions and 'help citizens assess the proposals of the presidential candidates on such a sensitive issue' (López, 2017).

7. *The Good, the Bad and the Accountant*. El Confidencial (2017) Spain

A newsgame created in collaboration with Journalism++'s data journalist team to interactively show examples of local corruption in Europe. The user adopts the role of treasurer of a large town council and chooses between ethics and corruption. According to its website,

> in order for citizens and public officials to better address corruption, it is necessary for them to gain a better understanding of the issue. By delving into the actual mechanisms of corruption, [this newsgame] enables users to up their expertise on the topic.

8. *The voter suppression trail*. The New York Times (2016) USA

This newsgame, published in the opinion section of the online newspaper during the US presidential election in 2016, has an editorial focus: to show the importance of going to the polls

Table 2. The tool with the analysis parameters of the newsgames.

Journalistic quality	
Formal parameters	*Treatment* of images, graphics and sound
	Style: effective composition
	Navigation throughout different levels
	A combination of *multimedia* elements
	Responsive design for desktop and mobile devices
	Comprehensibility: easy to understand
Content parameters	Precise *focus* when addressing the issues
	Clear and articulate *narrative*
	Impartiality in the treatment of news
	Relevance of the news
	Connection with the interests of the public
	Ethical principles
	Correctness in the text *writing*
	Sources: use their own sources
Quality of game design	
Quality of use	*Effectiveness:* to inform and entertain
	Player's *immersion* into the narrative
	Motivation: the narrative captures and maintains the user's interest
	The story arouses *emotions*
	Socialization options
Architecture and design	Clear *objective*
	Complex *narrative architecture*
	Help elements
	Consistent *narrative evolution*
	Difficulty of the game
	Feedback elements
	Intuitive controls
	External *rewards*
	Consistent *interface design*

and the difficulties that some voters face. It includes a 'note to viewers' in which the editorial team explains why they created it.

We selected newsgames with a thematic focus on politics (the implications of government actions, the running of political campaigns or issues such as budget decisions), because political issues and how they are framed by the media have significant implications for the citizens who make decisions about their public representatives.

We used a quantitative analysis tool that we developed and tested in previous research (García-Ortega and García-Avilés, 2018). This tool allows the journalistic and gaming quality of a newsgame to be measured by analysing 28 parameters divided into four categories: formal parameters, content parameters, quality of use and architecture and design (see Table 2). The tool was developed from a review of the elements of quality both in the journalistic content and in the product design, and the methodologies for the analysis of serious games and newsgames (Hafner and Jansz, 2018; Laamarti et al., 2014; Loh et al., 2015).

Addressing the journalistic quality of a genre such as newsgames is a complex issue because they synergistically combine traditional journalistic practices from news content, infographics,

audio and video, with practices of online media, such as spatiality, procedures, interactivity and participation (Wiehl, 2014). The variety of definitions of journalistic quality represents a serious obstacle when establishing measurement values in media products (Lacy and Rosenstiel, 2015; Pavlik and Pavlik, 2017).

Journalistic quality includes both professional standards and the assessment by the actual news readers, users and viewers. Methodologies employed to measure news quality are mainly based on theories of gatekeeping and newsmaking, on the demand and product approaches and the principles of truthfulness, verification and honesty (Anderson, 2013; Lacy and Rosenstiel, 2015). Quality criteria such as accuracy, diversity and transparency are assigned to the values of independence, relevance/context and truth/facticity (Meier, 2019). When evaluating journalistic quality, it is also relevant to include user experiences through elements such as participation, representation of their views and a gratifying presentation (Costera Meijer, 2013).

As in journalism, quantitatively measuring the quality of the game design is very complicated. Recent research (Trisnadoli et al., 2015; Vargas et al., 2014) refers to the ISO/IEC 25010:2011 (2011) standard, which defines the quality of use as 'the degree to which a product or system can be used by specific users to meet their needs to achieve specific goals with effectiveness, efficiency, freedom from risk and satisfaction in specific contexts of use'. However, the measurable factors included in ISO/IEC 25010:2011 (2011) are described only in terms of human computer interaction and leave aside elements related to the interface design and the game's mechanics and dynamics (González Sánchez et al., 2009).

According to González Sánchez et al. (2009), it is not enough to study a video games' quality in terms of usability or quality of use. Video games, unlike those systems and software which the main quality standards are based on (ISO/IEC 25010:2011 (2011) and ISO 9241-11:2018), include 'a set of specific non-functional values' which should be considered: rules of play, goals, storytelling techniques, virtual world recreation and character design (González Sánchez et al., 2009: 2). In this regard, González Sánchez et al. (2009) recommend identifying the elements that allow the quality of playability to be measured, that is, the quality of the game in terms of its operating rules and design.

To examine the aspects of playability, we identified parameters that allowed an understanding of the player experience, including concepts such as whether the narratives were pleasant and motivating (Bogost, 2007; Deterding et al., 2011; Sicart, 2008). Newsgame design principles, journalistic standards, procedural rhetoric and game mechanics were included in our tool.[2] The tool was pretested on two newsgames of different topics (climate change and economy) to validate the analysis parameters and to resolve coding doubts. A single coder carried out the final content analysis of the eight newsgames, playing each one and coding the user experience in each of the 28 parameters of the four categories. Where the value of a parameter was doubted, the game was tested and coded by a second coder. This way, we sought to determine whether there is a balance between the informative part and the gaming part or whether certain components predominate in each of the newsgames.

Results

To facilitate the comparison of the mechanics, dynamics and narrative resources employed, the newsgames were grouped into four analysis pairs, considering two criteria: (a) shared game mechanics and narrative structures and (b) similar theme or aesthetic.

  – *The Good . . . – Dans la peau . . .* Their game system, based on decision-making, allows the ins and outs of local politics to be shown in the first person.

– *Objectif Budget – Reto Carondelet*. These are based on the simulation of budgets, whose aim is to reduce the deficits of France and Ecuador.
– *Pick your own Brexit – The voter suppression*. Although these deal with different topics, they use an arcade design based on classic 8-bit games. The game mechanics include decision-making and personalization of the narrative.
– *Predict the President – Jogo Eleitoral*. These use statistical data to show information about elections in the United States and Brazil. Both raise doubts about their classification (gamified infographic or newsgame infographic).

We analysed the parameters each newsgame meets in four categories: formal aspect, content, quality of use and architecture and design. A summary of the results is presented in Table 3 in the Online Appendix.

Formal parameters

From a formal point of view, all the newsgames share two characteristics. On the one hand, no great variety was observed in the use of genres and multimedia language. They only use text, graphics and, in some cases (*Pick your own Brexit* and *The voter suppression trail*), simple 2D animations. On the other hand, their responsive design means they can be used on different devices and platforms. The parameters of execution, style, navigation and comprehensibility were analysed in each newsgame.

Pick your own Brexit (6/6)[3] and *The voter suppression trail* (6/6) stand out. Although they are of different themes, they have similar aesthetics with arcade-inspired 2D animations based on classic 8-bit games. Both obtain an outstanding score in the treatment of image, graphics and sound (execution) and present information in an orderly manner (comprehensibility). Their navigation is based on decision-making, providing the user with different alternatives to the same situation.

The Good . . . (5/6) and *Dans la peau . . .* are the most complex newsgames in terms of design, structure and information processing (5/6). Both organize their content according to the decisions taken by the player, with multiple scenarios and narrative options. *The Good . . .* interacts through an interface that simulates a chat between the player and the rest of the characters. On the other hand, *Dans la peau . . .* presents a simpler aesthetic based on icons and hypertext. *The Good . . .* employs a conversational navigation system in which the user must chat with different characters to be able to advance in the narrative. In the comprehensibility parameter, both newsgames present an intuitive and easy-to-understand structure.

Objectif Budget (5/6) and *Reto Carondelet* (3/6) are based on a budget simulation system. Although they use similar game mechanics and dynamics, there are notable differences in their design and structure. *Reto Carondelet* depicts a first-person interface that emulates the office of the president of the Republic of Ecuador. On the other hand, *Objectif Budget* includes exclusively interactive graphics, side-lining immersive visual elements (Figure 1). The two newsgames present an attractive image (style) and a narrative structure with a high level of comprehensibility. *Reto Carondelet* presents certain shortfalls in navigation. User interaction is limited to the selection of budgetary measures compiled in a ledger. Each decision leads to a political–economic consequence, which in turn takes the user to the home screen, and therefore the circular navigation system tends to become repetitive. On the other hand, *Objectif Budget* includes an interactive graphic in each budget item and different interaction options, such as adjusting the percentage of investment with respect to the previous year or carrying out specific actions in each department.

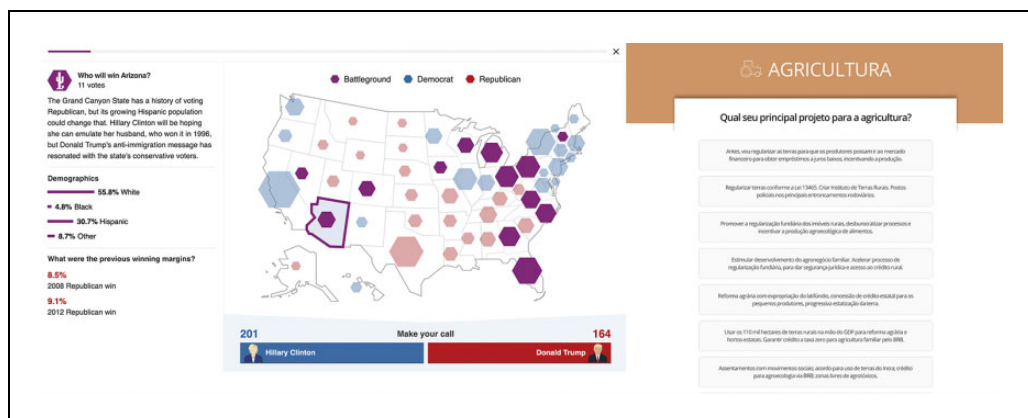**Figure 1.** Interfaces of *Reto Carondelet* and *Objectif Budget*.

Figure 2. Interfaces of *Predict the President* and *Jogo Eleitoral*

Predict the President (5/6) and *Jogo Eleitoral* (2/6) are infographics-based newsgames with notable formal differences. *Predict the President*'s interface is well designed in terms of style and execution. It includes a map with states that are coloured according to whether they are Republican or Democrat, a sidebar with complementary information (demographics, history, percentages of previous elections and the total number of votes) and several action buttons. On the other hand, *Jogo Eleitoral* has only one questionnaire designed in plain text with response options (Figure 2).

Content parameters

As in the previous section, there are several similarities in terms of content. All the newsgames make their focus clear from the outset: to inform (*The Good . . . , Dans la peau . . . , Predict the*

Figure 3. News stories from L'avenir.net linked in *Dans la peau d'un bourgmestre.*

President and *Jogo Eleitoral*), foster critical thinking about a current political issue (*Reto Carondelet* and *Objectif Budget*) or show an editorial opinion (*The voter suppression trail* and *Pick your own Brexit)*. In addition, they offer information relevant to users, showing their implications for decisions on matters of a public nature. Therefore, the parameters of focus, clear writing, relevance and connection with the interests of the audience are met.

Regarding the use of their own sources, only *The Good . . .* (8/8) and *Dans la peau . . .* (8/8) explicitly indicate which news items and real cases inspired the narrative. *The Good . . .* is integrated into the interactive proposal of the *Cooking Budgets* project, a series of satirical tutorials on corruption at the European level developed by organizations integrated within *OpenBudgets.eu: Fighting Corruption with Fiscal Transparency*, a consortium that includes universities (University of Prague, University of Bonn), foundations (Open Knowledge Germany, Open Knowledge Greece), data journalism organizations (CIVIO, Fraunhofer IAIS, Journalism ++) and Transparency International EU. The newsgame refers to several cases of corruption, including bribes, false public contracts, official credit cards and real estate corruption. On the other hand, *Dans la peau . . .* links to news stories published by L'avenir.net that show the real consequences of the decisions taken by the player (Figure 3). *Objectif Budget* (7/8) and *Reto Carondelet* (7/8) also use

data based on real events, although they do not indicate the sources or the news stories on which they are based.

In the ethical parameter, all the projects respect the principles of honesty and truthfulness, as well as the dignity of the person. In this regard, two significant strategies stand out. On the one hand, to maintain the anonymity of those sources and characters that may be controversial, *The Good . . .* and *Reto Carondelet* use pseudonyms and fictitious characters based on real cases. On the other hand, newsgames with a satirical tone, such as *Pick your own Brexit* (6/8) and *The voter suppression trail* (6/8), refer to news stories and official statements as the basis of their humorous criticisms.

In terms of narratives, two levels of depth were observed. Several newsgames have a narrative thread that evolves according to the decisions made by the player (*The Good . . .*, *Pick your own Brexit*, *The voter suppression trail* and *Dans la peau . . .*). Others, on the other hand, only include the introduction of the game, the interaction options and their consequences (*Objectif Budget*, *Reto Carondelet*, *Predict the President* and *Jogo Eleitoral*). However, all of them offer a clear and articulated narrative so that the user can understand the information.

Regarding the impartiality of the content, all the newsgames reflect the point of view of their creators to a greater or lesser extent. However, certain differences are observed depending on the approach and design. Those newsgames whose mechanics and dynamics are oriented at showing how a certain process works (*Objectif Budget*, *Reto Carondelet* or *Predict the President*) are more moderate in their positioning and value judgments. On the other hand, the newsgames whose objective is to promote the debate around a current topic (*Pick your own Brexit* or *The voter suppression trail*) use visual, textual and procedural rhetorical formulas aimed at transmitting arguments and opinions.

Quality of use

The newsgames present disparate results in terms of user experience and quality of use. *The Good . . .* (5/5) and *Dans la peau.* (5/5) employ a first-person narrative that is entertaining and in turn provides useful information about local politics. Therefore, they meet the basic objectives of any newsgame to inform and entertain. In terms of motivation, both games maintain the user's interest thanks to the appearance of progressive challenges. In addition, the use of the first person and the direct style of the dialogues achieve an effect of narrative immersion. Finally, with regard to the social parameter, the options are quite limited because these newsgames cannot be experienced in multiplayer mode and do not allow users to contribute their own content. They only offer the possibility of sharing the results through social media.

Pick your own Brexit (4/5) and *The voter suppression trail* (4/5) obtain higher scores in quality of use. They include visual and narrative elements that capture the attention of users and arouse emotions through the plots and situations that show and fulfil the aims of informing and entertaining. From the perspective of immersion, they use a narrative in the first person that evolves according to the decisions of the player, so that the user is at the centre of the action and becomes the story's protagonist. They only fail in the socialization parameter.

Objectif Budget (4/5) and *Reto Carondelet* (3/5) present significant differences in terms of motivation, emotion and effectiveness. *Objectif Budget* includes a large range of elements that enhance motivation and arouse emotions – positive or negative – in the player (warning notices, advice, feedback and progress elements, etc.). Moreover, the combination of real data with simulation mechanics means the objectives of informing and entertaining are achieved. In contrast,

the structural options of *Reto Carondelet* are more limited. Feedback elements are restricted to two progress bars at the top of the interface and player interaction is limited to a ledger that redirects to the home page, thus making this circular structure repetitive and not very motivating.

Predict the President (4/5) and *Jogo Eleitoral* (2/5) do not use narrative formulas or structural elements that enhance the user's immersion. Most of the resources are of an external nature and are limited to providing the player with feedback. *Predict the President* includes multiple elements that enhance the user's motivation: summary screens after the election of each state, a scoreboard with the candidates' votes, a progress bar in the upper part and the change of colour of the states after the player's decision. On the other hand, *Jogo Eleitoral* is based on a question–answer interaction system that can become repetitive after a few minutes. Only *Predict the President* offers the option of sharing their results through social networks.

Architecture and design

Dans la peau . . . (8/9) and *The Good . . .* (7/9) obtain higher scores. The feedback and progress elements of *Dans la peau . . .* inform the users of their score, progress and goals at all times. In addition, the narrative architecture has several options and the narrative evolves consistently with the player's decisions. Foremost is the presence of different levels of difficulty, represented by three different municipalities: Ruman, Housty-sur-Meuse and Blangville, as well as help elements to guide the user and simple and intuitive controls. Only the parameter related to the reward elements is not met.

In the help section of *The Good . . .*, users can find advice on the different situations they must face. Furthermore, it includes multiple feedback elements and the controls and mechanics are easy to understand. Regarding its architecture, the game has different paths and options that vary depending on the player's decisions. However, it has certain shortcomings: it lacks levels of difficulty that allow the user to enjoy differentiated experiences according to his/her existing knowledge and there are no reward elements that enhance his/her motivation and engagement.

The voter suppression trail (7/9) and *Pick your own Brexit* (6/9) present a consistent interface from the point of view of the design (colour, typography, dialogue design, etc.), make the aim of the game clear from the beginning and use easy-to-understand controls. However, *The voter suppression trail* has certain advantages over *Pick your own Brexit* as it includes help elements and tutorials at the beginning of the mini-games, characters and scenarios that progressively increase in difficulty and feedback elements that allow the player's situation to be consulted upon at all times (Figure 4).

Objectif Budget (6/9) and *Reto Carondelet* (7/9) obtain similar results. In both newsgames, the aim of the game is made clear from the beginning, they use a branched narrative with help elements and advice, the narrative evolves consistently with the player's decisions and the controls are easily understood. However, certain shortcomings are observed from the perspective of the player's motivation. Both newsgames lack different levels or progressive challenges, there are no rewards (medals, points, classifications, etc.) and, in the case of *Reto Carondelet*, the feedback and progress elements are very limited.

Finally, as an analysis pair, *Predict the President* (7/9) and *Jogo Eleitoral* (4/9) show the most differences from the point of view of architecture and design. *Predict the President* meets most of the parameters, while *Jogo Eleitoral* only meets four of the nine analysed. In *Predict the President*, a sidebar with information about each undecided state allows the player to consult the political situation of the state, the demographic profile of the voters and the voting statistics of previous
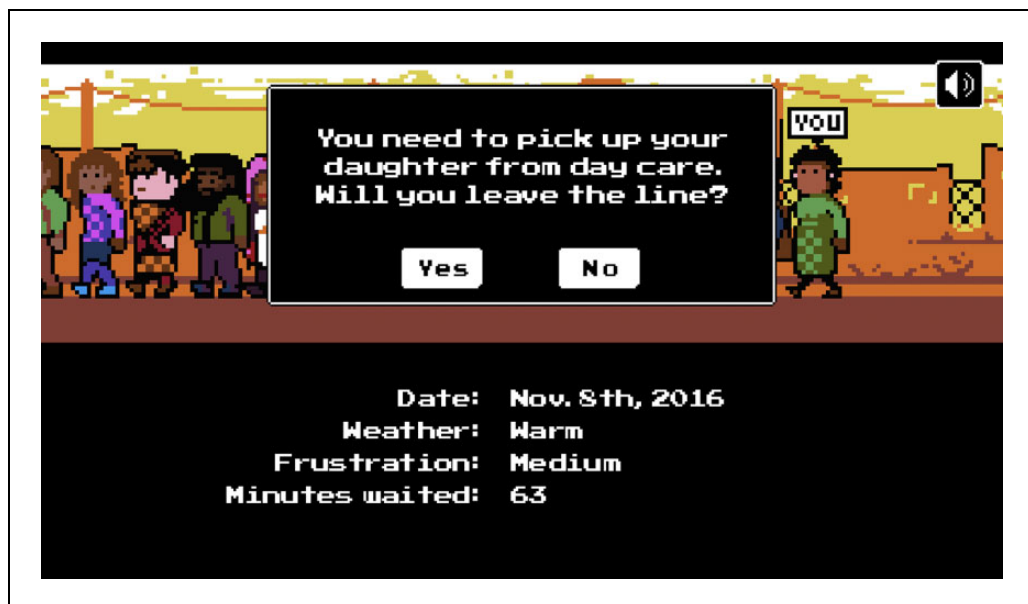
Figure 4. Feedback and progress elements in *The voter suppression trail.*

elections. It also includes feedback and progress elements, attractive interface design and very intuitive controls. In general, it is a well-designed newsgame with solid architecture.

For its part, *Jogo Eleitoral* only fulfils the parameters related to the design and achievement of objectives. The interface – although somewhat simple – is consistent in its use of different colours and typographies, with easy-to-understand controls (question–answer system), the game evolves according to the player's decisions and the aim is clear. On the other hand, *Jogo Eleitoral* lacks elements that guide the user throughout the experience and elements that raise different levels of difficulty that could enhance player motivation.

Discussion

Newsgames are a genre surrounded by doubts and questions regarding their usefulness in journalism. Some scholars and news professionals hold reservations vis-à-vis their ability to show the complexity of a current event without falling into banalization or simplification of argument (Meier, 2018). In this regard, our analysis yields two main conclusions: the use of playful elements is not incompatible with the fulfilment of journalistic quality standards (RQ1), and the choice of mechanics and dynamics determines the way in which the user perceives and interacts with the information. In general terms, the eight political newsgames analysed maintain a balance between gaming components and journalistic values (RQ2). However, the balance between both aspects does not guarantee that the newsgame provides the necessary narrative resources for the information to be understood autonomously (RQ3). For this, the intention that each of the employed mechanics was designed with needs to be studied (Figure 5).

The eight cases can be divided into two groups. On the one hand, those whose mechanics are designed to complement and enrich the information, encouraging interactivity and user
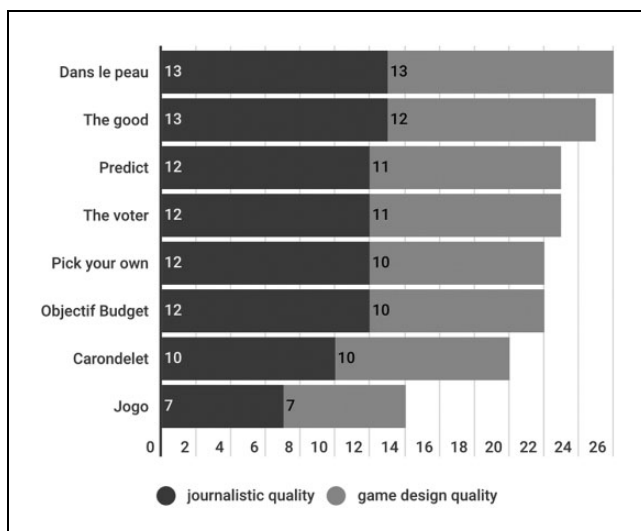
Figure 5. Balance between the gaming and informative parameters of the newsgames. Source: Authors.

participation (*Dans la peau . . . , The Good . . . , Objectif Budget* and *Predict the President*). On the other, those whose design is mainly aimed at entertainment and the achievement of certain playful objectives, leaving information in the background (*The voter suppression trail, Jogo Eleitoral, Reto Carondelet* and *Pick your own Brexit*). All newsgames whose playful strategy is oriented at enhancing journalistic values share three common characteristics: they provide complementary information about the context and the sources used; their plot is based on the use of procedural rhetoric; and the game design elements are aimed at strengthening values such as objectivity, ethics and public service.

In line with the findings of Plewe and Fürsich (2018), the results show how the inclusion of additional sources and background information is useful in reminding users of the real implications of the theme they experience through the game. The immersive mechanics, dynamics and strategies may distance the player from the events behind the story. Therefore, the use of references and complementary information provides a competitive advantage over other gamified genres that focus exclusively on game dynamics. On this subject, a certain correlation was observed between compliance with journalistic parameters and quality of use. The newsgames whose mechanics are oriented at strengthening journalistic values (interaction with the characters, different points of view, complementary information, tutorials, and help elements, etc.) obtained better results in parameters related to user experience and quality of use. Accordingly, the predominance of internal mechanics (branched structure, first-person narrative, immersive resources, etc.) versus structural resources (rewards, feedback, etc.) should be noted.

Although most newsgames meet the main criteria of journalistic quality such as focus, relevance, connection and clear writing, certain doubts exist regarding the impartiality of the genre, as indicated in previous studies (Sicart, 2008; Treanor and Mateas, 2009). With the exception of *Pick your own Brexit* and *The voter suppression trail*, in which the purpose of the message is clearly editorial, the rest base their information on the principles of ethics, objectivity and impartiality.

Nevertheless, to a greater or lesser extent, all the newsgames reflect the point of view of the designers through the choice of mechanics and dynamics.

Unlike other journalistic genres, whose arguments are based on verbal and visual rhetoric, newsgames use procedural rhetoric in which the plots are not created through the construction of images and words but through dynamic models based on rules and behaviour patterns (Bogost, 2007). These newsgames mostly use mechanics and dynamics based on decision-making and the simulation of scenarios. In this way, aspects of a political nature that can be more complex (annual budgets, corruption, electoral processes, etc.) are simplified and users can potentially enjoy greater involvement. Nevertheless, the procedural rhetoric can be a very powerful persuasive tool. Therefore, in the newsgames that deal with issues of a public nature, it is essential to analyse how dynamic models are designed and applied.

The designer's point of view can only be determined through the analysis of the dynamics used and the consequences and processes derived from each newsgame. Some newsgames show their editorial line more clearly than others, something which seems to be related to the focus and design. Those genres whose mechanics and dynamics are oriented at showing how a certain process works are more cautious when offering opinions and value judgments. On the other hand, those newsgames whose goal is to foster critical thinking about a current topic use a wide range of rhetorical formulas (visual, textual and procedural) aimed at conspicuously conveying arguments and opinions.

Our study presents some limitations due to the small size of the sample and therefore its results cannot be generalized to all newsgames. It would also be useful to differentiate more specifically between newsgames of an opinion, informative, editorial or satirical nature, analysing in-depth the different approaches of their creators. Moreover, our study could be complemented with user tests that allow the players' interaction patterns with the different newsgames to be identified and to extract relevant information on how they assimilate and interpret the news content and the gaming experience.

Newsgames are a genre with huge potential for showing current events in a playful and informative way (Ferrer-Conill, 2018; Lai, 2015; Wiehl, 2014) if the game resources are used at the service of the information. Our findings reveal that the correct choice of mechanics and dynamics allows information to be communicated and complex arguments to be created in a way that is consistent with journalistic standards. Thus, the intersection of journalism and gaming facilitates 'information-driven media' (Bogost et al., 2010) in which news content is constructed through interaction with the game system and is not included just as an accessory element. Therefore, newsgames emerge as powerful hybrid communicative forms that reflect larger issues about communication in the current digital media environment.

Supplemental material

Supplemental material for this article is available online.

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Notes

1. The database can be consulted at http://bit.ly/newsgames_database
2. A summary of the codebook designed to study these newsgames is included in the Online Appendix.
3. This score indicates how many parameters the newsgame fulfils out of the total number of parameters analysed in that category.

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