Visualisations as a critical information source for data journalism. Analysis of the typology, interactivity, and functions in the 2019 Data Journalism Awards

Las visualizaciones como recurso informativo clave en el periodismo de datos. Análisis de la tipología, la interactividad y las funciones en los Data Journalism Awards 2019

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Abstract:

This research provides a current snapshot of visualisations in the best data journalism stories, those nominated for the 2019 Data Journalism Awards by analysing typologies, the interactivity, and functions they serve. A content analysis (n=42) is carried out to identify the characteristics, differences, and similarities between the nominees and winners and establish a classification of the interactive elements according to their purpose. The analysis shows

Resumen:

Esta investigación presenta una radiografía actual del uso de las visualizaciones en las mejores historias de periodismo de datos, aquellas nominadas a los Data Journalism Awards 2019, a través del examen de las tipologías, la interactividad y las funciones que desempeñan. Mediante un análisis de contenido (n=42) se detectan características, diferencias y similitudes entre nominados y premiados y se establece una clasificación de los elementos interactivos en

that infographics are the most widely used form of representation (45,24%). Two groups of interactive features are detected; those that focus on engaging and holding the reader's attention and those that satisfy their information needs. The lack of interactivity, limiting users' responsibility, would explain the first group's widespread use in this paper. Among other findings, we conclude that the differences between the nominees and winners are in the visualisation function and all the aspects related to its interactivity.

Keywords:

Data journalism; visualization; interactivity; infographic; Data Journalism Awards.

función de su finalidad. Del análisis se desprende que la infografía es la forma de representación más empleada (45,24%). Se detectan dos núcleos de elementos interactivos: los que se centran en atraer y retener al lector y los que satisfacen necesidades informativas. La escasa interactividad, limitando la responsabilidad del usuario, explicaría el amplio uso del primer grupo en este trabajo. Entre otras constataciones, se concluye que las diferencias entre nominados y premiados son la función de la visualización y todo lo relacionado con la interactividad.

Palabras clave:

Periodismo de datos, visualización, interactividad, infografía, Data Journalism Awards.

1. Introduction

Data journalism is a journalistic tool that enables large numbers of figures to be handled, using numerical analysis, programming, and visualisation techniques (Appelgren and Nygren, 2014; Loosen, 2018). The professional profile of data journalists is not standardised, it evolves as techniques and technologies do, and although the practice differs according to each country, the methods and tools are similar around the world (Nygren, Appelgren and Hüttenrauch, 2012; López-García, Toural-Bran, and Rodríguez-Vázquez, 2016).

Visualisations are an essential element for creating data journalism projects (Herrero-Solana and Rodríguez-Domínguez, 2015). They are the most common form of communication and are usually complementary to the stories' narrative to make reading more manageable and the content more understandable and contextualised (Nguyen, Shrestha, Germuska, Kim, Hullman, 2019; Ivars-Nicolás, 2019). However, visualisations are considered fundamental for carrying out this media practice and journalism in general because they contribute to the quality of the content, attract users, and allow them to interact with it (Engebretsen, Kennedy, and Weber, 2018). Holmqvist (2005) showed that visual information is what readers devoted most time to and is the content that generates the most interest.

There is a debate about the terms "infographics" and "visualisation", which are sometimes used interchangeably. Canga Larequi (1994: 141) determined that infographics are a "technique that enables the spread of journalistic information, which is expressed graphically on a written or audiovisual support through the use of computer procedures and allows the viewer to capture the essence of the message visually." In this sense, Ilinsky (2012) highlighted that infographics differed from visualisation as they combine artistic and technical drawings and incorporate a smaller amount of data. Alcalde (in Sánchez and Sánchez, 2018) reinforces this and states that infographics are usually more straightforward and on paper (although they are also present digitally), while visualisations deal with more study variables and enable users to interact with content. In this research, as in previous data journalism studies, the word visualisation is used as a generic concept to refer to the visual and graphic representation of the information, with or without interactivity, to simplify communication, inquiry, analysis, and understanding of the data (Cairo, 2012; Bradshaw, 2012). For this reason, infographics are considered

as a type of visualisation, with a graphic and visual nature, composed of iconic resources- photographs, graphs, maps, etc.- and typographic or verbal resources (Colle, 2004; Valero, 2008; Cairo, 2016; Ivars-Nicolás, 2019).

Visualisations in data journalism enable complex and abstract information to be transformed, thus turning large data sets into simple realities (Sánchez-Bohenví and Ribera, 2014; Kennedy, Hill, Aiello and Allen, 2016; Sánchez and Sánchez, 2018). Manovich (2008, 2011, 2014) states that these data visualisations' purpose is to make figures visually understandable and facilitate news consumption.

Visualisations are becoming more widespread, mainly due to journalists' training in artistic and audiovisual disciplines (Ivars-Nicolás, 2019). Its use has also increased in parallel with the profession's digitalisation and greater access to the free tools for creating them.

Cairo (2014; 2017) states that visualisations are not only designed to be seen but also to be interpreted and judged. Rogers (2014) adds that it must be the data that defines and allows the journalist to select the type of visualisation. Therefore, it is essential to determine the audience, goal, and context in which it is shown (Sánchez-Bohenví and Ribera, 2014).

Stikeleather (2013) highlights that for a visualisation to be effective, it must comply with these three principles: understand the audience, have a structure or clear diagram and tell a story. The visualisation will only achieve its purpose if the audience can understand the sense of the information.

In this sense, data representation has become an intrinsic part of the lingua franca, a common form of communication independent of each territory's policies and cultures (Barlow, 2014).

1.1. The study of visualisations within data journalism

There are three types of studies related to data journalism in the scientific literature: those focused on the conceptualisation and theorisation of data journalism (p.e.: Gray, Bounegru and Chambers, 2012; Howard, 2014; Royal and Blasingame, 2015; Coddington, 2015; Borges-Rey, 2016), those that examine the actors involved in its production (e.g., Paraise and Darigal, 2012; Appelgren and Nygren, 2014; De-Maeyer, Libert, Domingo, Heinderyckx a Le-Cam, 2015; Fink and Anderson, 2015; Uskali y Kuutti, 2015; Tabary, Provost and Trottier, 2016; Hermida andy Young, 2017) and those that carry out an analysis of this media practice (e.g., Knight, 2015; Tandoc and Soo-kwang, 2017; Loosen, Reimer and Schmidt, 2017; Young, Hermida, and Fulda, 2018; Ojo and Heravi, 2018).

In the latter group, the investigations that dissect the visualisations in data journalism works are included, all of which apply content analysis as a method for drawing conclusions. Although most are not studies focused exclusively on the visual aspects, the works focus on elements related to the visualisations' quantity, typology, interactive options, and functions. The results obtained are different due to the lack of consensus on the criteria for examining this media practice.

Knight (2015), Loosen, Reimer, and Schmidt (2015, 2017), and Stalph (2017) agree that the publications include an average of two news graphic representations per item, most often incorporating only one that is structured as a story. These are mainly concerned with showing changes over time and comparing values.

Regarding the typology of the graphic news representations, there is no standard classification reference, perhaps because digital techniques and tools are constantly evolving. Among others, the taxonomy proposed by Rodríguez and Salgado (1989) stands out, in which they divide the news graphics into two broad groups: statistical news graphs and illustrative news graphs. Those representations that inform quantitatively and relate numerical variables are in the first group, such as bar charts, column charts, circular charts, linear charts, area charts, or statistical tables. Those that show the reader how an event or fact has occurred and present information that is better understood visually rather than verbally are in the second group, such as infographics, maps, symbols, illustrations, comics, animated iconography, explanatory and organisational graphs.

Works based on data journalism show how the lack of standard categorisations leads to a lack of consensus when working with visualisations. Knight (2015) established a categorisation according to the complexity of the data elements and found that infographics and maps were used the most. Tandoc and Soo-Kwang (2017) analysed the Guardian data repository and noted that the tables were the most frequent element, while Stalph (2017) –examined Zeit Online, Spiegel Online, The Guardian, and Neue Zürcher Zeitung–, Loosen, Reimer and Schmidt (2017), Young, Hermida, and Fulda (2018) and Ojo & Heravi (2018) –focus on the analysis of the Data Journalism Awards– finding a predominance of static graphs, maps, and images.

As with typology, there is no common operalisation for the variables in interactive functions. The first to propose a reliable classification was Schulmeister (2003), who distinguished six levels: from the static visualisations to stage VI, which incorporates feedback. Yi, Ah-Kang, and Stasko (2007) established a classification with seven techniques according to the user's intentions: select, explore, reconfigure, code, summarise, filter, and connect. Segel and Heer (2010) differentiated between floating details, filtering/selecting/searching, navigation buttons, limited interaction, explicit instructions, and tutorials. Finally, Boy, Detienne, and Fekete (2015) designed a categorisation based on Yi's, Ah-Kang's, and Stasko's (2007): inspect, connect, select, filter, explore and narrate. The remaining works examine interactivity or combine the above approaches (Loosen, Reimer, and Schmidt, 2017; Stalph, 2017; Tandoc and Soo-Kwang, 2017; Young, Hermida, and Fulda, 2018; Ojo and Heravi, 2018; Appelgren, 2018). Despite the different methods used, the authors foresee reduced interactivity, as necessary and limited functions such as search, filtering, and selection are incorporated. This paper proposes three main objectives:

O1: To determine the characteristics of the visualisations incorporated into the reference data journalism stories, those nominated for the 2019 Data Journalism Awards, provide a current analysis of their use.

O2: To identify differences and similarities between the nominated stories and the award-winners in the 2019 Data Journalism Awards by analysing the visualisations' typology, interactivity, and functionalities.

O3: To establish a classification of the interactive elements according to their purpose.

2. Methodology

This research is of a univariate and two-dimensional descriptive nature and aims to dissect the visualisations in the quality data journalism publications. In line with previous works (Loosen, Reimer, and Schmidt, 2017; Ojo and Heravi, 2018; Young, Hermida, and Fulda, 2018; Córdoba-Cabús, 2020), a content analysis was applied as a methodological tool to the stories nominated for the 2019 Data Journalism Awards. These awards were organised by the Global Editors Network and have been recognised since 2012 as the highest international award in this specialisation to evaluate both the work with figures and the form and content of the project (Global Editors Network, 2019). These publications mark future trends in data journalism since they incorporate the most formal innovations and the highest quality and variety of resources.

There were a total of 103 works in the 2019 call for entries. This study's central focus is the specific data journalism publications; in other words, those nominations are data units or teams, journalists' portfolios, and entire websites were excluded from the sample. The final sample was composed of 42 items from the categories: research of the year, best use of data in breaking news (within the first 36 hours), data visualisations of the year, innovation in data journalism, and the audience's choice award.

The data journalism items' analysis included the following variables: number, typology, functions, information representation, and visualisation ratio. Following Stalph's (2017) assessment and due to the high number of visualisations, a maximum of eight per item was examined. In the works with several screens, only the main one was analysed, and when the story was represented through an infographic, it was categorised as a single visualisation.

2.1. Types of visualisations

The visualisations were classified by combining the typologies used in different studies (Wijk, 2005; Segel and Heer, 2010; Knight, 2015; Loosen, Reimer and Schmidt, 2015; Tandoc and Soo-Kwang, 2017; Stalph, 2017; Young, Hermida, and Fulda, 2018; Córdoba-Cabús, 2018; Córdoba-Cabús, 2020), to frame any visualisation in some of the following options:

– Tables and lists with or without interactivity. They show information in a table or list. The tables or lists are included in this part, making it possible to rearrange the figures, however, if the interactive functions expand the journalistic content or incorporate more elements to the visual representation, they are classified as infographics (Salvatierra, 2008).

– Static graphs. Represent numerical information in two dimensions. The legend and the title are considered components of the graph (Arteaga, 2008). The type is not specified (bars, lines, areas, sectors, etc.). Annotated static graphs are categorised as infographics (Salvatierra, 2008).

– Interactive graphs. Represent information in two dimensions. As in the static ones, the legend and title are considered as components of the graph (Arteaga, 2008). If it is interactive, and these functions expand the journalistic content or incorporate more elements in the visual representation, it is classified as an infographic (Salvatierra, 2008). If they are moving graphs (with automatic changes), they are grouped in the option "Animations."

– Maps with or without interactivity. They provide a geographical representation of the information. As with the graphics, both the title and the legend are considered part of the map. The static maps with annotations and those that

add the interactive functions provide more journalistic information categorised as infographics. Actions such as summarising (zooming) or reconfiguring (when they do not involve changing data) are not included at this point since they usually show the same information in more or less detail.

– Visual resources: photographs, videos, or illustrations. This option only includes informative graph representations containing figures; the rest are not evaluated.

– Animations. They show numerical information animatedly. The changes or movements are carried out automatically—examples: moving graphics, icons, etc.

– Infographics. Combine text, images, videos or illustrations and graphics in the same visualisation.

– Others. Any other type of visualisation that cannot be grouped in the previous options.

2.2. Functions of the visualisations

The visualisations within the data stories were defined following the parameters set out by Barlow (2014) and Veglis and Bratsas (2017). We distinguish between whether the visualisation was part of the story and subsequently added value to the narrative or structured as a story. The story is the central part of the publication, and the text is less important than the visualisation.

The type of information provided by the data incorporated into the visualisations was set out according to Kang's analysis (2015). As in her research, we identified whether they compared values (rankings), showed connections and flows (relations and associations), traced changes in time, showed hierarchies, or presented other possibilities.

2.3. Interactivity of the visualisations

By interactivity, we mean those operations that the user can carry out with the visualisation. In this case, to examine the interactive functions, we brought various categorisations together applied in the research mentioned above (Schulmeister's, 2003; Yi, Ah-Kang and Stasko, 2007; Segel and Heer, 2010; Boy, Detienne and Fekete, 2015; Loosen, Reimer and Schmidt, 2017; Stalph, 2017; Tandoc and Soo-Kwang, 2017; Young, Hermida, and Fulda, 2018; Ojo and Heravi, 2018; Appelgren, 2018). In this variable, there was multiple coding, and the possibilities were the following:

– It does not possess interactive functions. They are static visualisations.

– To inspect. To obtain details upon request.

– To connect. to highlight associations and relationships between data, generally by clicking on hyperlinks or highlighting similar information.

– To filter: Show conditioned information. In this case, the perspective does not change, only the data presented.

– To summarise. Present more or less detail. Its incorporation is more usual on maps, with the zoom in and zoom out functions or adjusting vision.

– To reconfigure. Offer different ways to present the information.

– To narrate. Guide the reader through the story, inviting him/her to turn the page or continue viewing.

– To interact with games. Propose entertainment spaces to attract the user.

– To personalize. Make it possible to incorporate your data.

– Others. Interactive elements that can not be counted in the previous options would be included here.

Finally, the ratio of visualisations in the items was examined regarding the physical space occupied by the text and the visualisations. Following Stalph's approach (2017) and Tandoc and Soo-Kwang (2017), we noted whether the visualisations or the narrative part of the works predominated, whether there was a balance between them, or the contrary, the project captured information only through informative graphic representations or narration.

3. Results

In total, 101 visualisations incorporated in the 42 works selected were analysed. After examining them, it was clear that the items included an average of more than two visualisations (M=2,40). The incorporation of only one was the most frequent (57.14%). We identified only one project that does not contain news graphic representations. In other words, the work with data is presented in the text's body in this case. If we analyse the items depending on whether they won an award or not, all the winners (n=5) except one included only one visualisation. There is a slight disparity in the nominees' number of visualisations, perhaps due to the difference in numbers between winners and nominees.

3.1. Types of visualisations

As seen in Table 1, the most common visualisations in the nominees for the Data Journalism Awards 2019 are infographics (45.24%). Most of these are structured as scrolling through the content to discover the full story. This would explain the use of a single visualisation in the publications, shaping the whole story as infographics and combining image, text, and visualisation. This communication form is quality work and shows the journalist's capacity for interpretation and analysis, who tries to synthesise the content and show a complex or abstract reality in a more simplified one. Clear examples of the above are the publications "Concrete and coral" and "Indonesia plane crash" by Reuters "Hurricane Maria's dead" by Associated Press, Centre for Investigative Journalism, and Quartz.

Graphic elements, such as images, illustrations, and videos, are the second most used visualisation type (30.95%). The static graphics, interactive graphics, maps, tables, and animations- in this case, sets of visualisations that vary automatically in time follow the graphic elements of the data journalism items. The option "other" (11.90) includes, among others, the self-refillable text proposed in "How to forecast an American's vote" by the Economist and the search engine of integrated figures in the project "Medical devices harm patients worldwide as Governments fail on safety" developed together by more than 50 journalistic organisations.

Figure 1: Visualisations used in the nominations for the Data Journalism Awards 2019

Type of visualisation	Nominated	Award-winners	TOTAL
Tables or lists	8.33%	-	7.14%
Static Graphics	25.00%	16.66%	23.81%
Interactive graphic	16.67%	16.66%	16.67%
Maps	16.67%	-	14.29%
Visual Resources	33.33%	16.66%	30.95%
Animations	8.33%	-	7.14%
Infographics	41.66%	66.67%	45.24%
There are no visualisations	2.38%	-	2.78%
Other	13.88%	-	11.90%

Source: created by the authors

Only 16 of the works examined incorporate more than one visualisation. In these, the most repeated combination is the one that includes static graphics and elements such as images or illustrations (n=9) mixed with others such as maps.

When dissecting the type of visualisation according to whether or not there is recognition, it was found that infographics are still the preferred visualisation. However, its dominance is much more significant in the award-winners (66.67% in the award-winners than 41.66% in the nominees). In the award-winning ones, they are always structured as a scrollytelling, so they are not combined with any other communication form. On the other hand, although infographics as a story in itself also prevail in the nominees, there are times in which they are mixed with different visualisations.

3.2. Functions of the visualisations

Visualisations are a characteristic element of data journalism. The role they play within the item varies depending on the type of story, the audience it addresses, and what it intends to tell.

In the sample analysed, no projects consist solely of visualisations; they are always accompanied by a text to a greater or lesser extent, while there is an article in which no informative graphic representation is incorporated (Figure 1). In this case, data journalism is communicated through narration. This project is the "Driver's notebooks exposed Argentina's greatest corruption scandal ever: ten years and millions of cash bribes in the bag" by *La Nación* (Argentina), whose home

page, the only one examined, only incorporates general images without numerical information. In these photographs, the notebooks of those who took the confidential information to appear in one of the most significant corruption cases in Argentina: the bribes that Roberto Baratta accepted from Argentinian companies, a former public official, in exchange for the granting of public contracts,

In the articles, the visualisations predominate (57.76%), and there is less of a balance between the narrative and visual part (23.81%) and excess text (19.05%). It could be said that the data journalism works studied give more space to the visual design of information rather than the narrative.

Figure 1. How the candidate projects for the Data Journalism Awards 2019 are structured
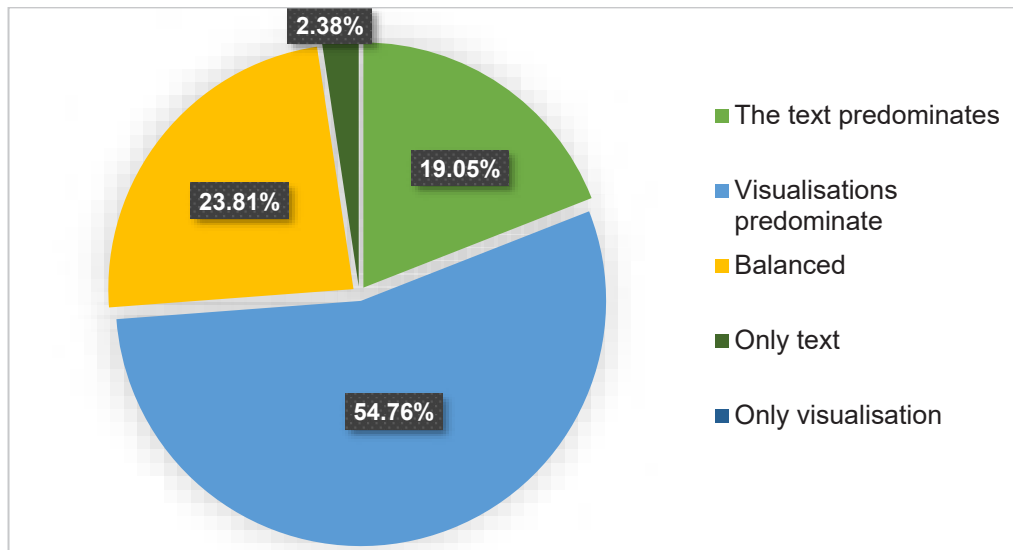
Source: created by the authors

As shown in Figure 2, there is no clear domain of a particular function in the total projects with visualisations. There is a balance between those structured as a story in themselves, considering the main visualisations as the central part of the item (54.76%) and those that complement the narration (42.85%).

Figure 2: The functions of the visualisations in the awarded and nominated projects
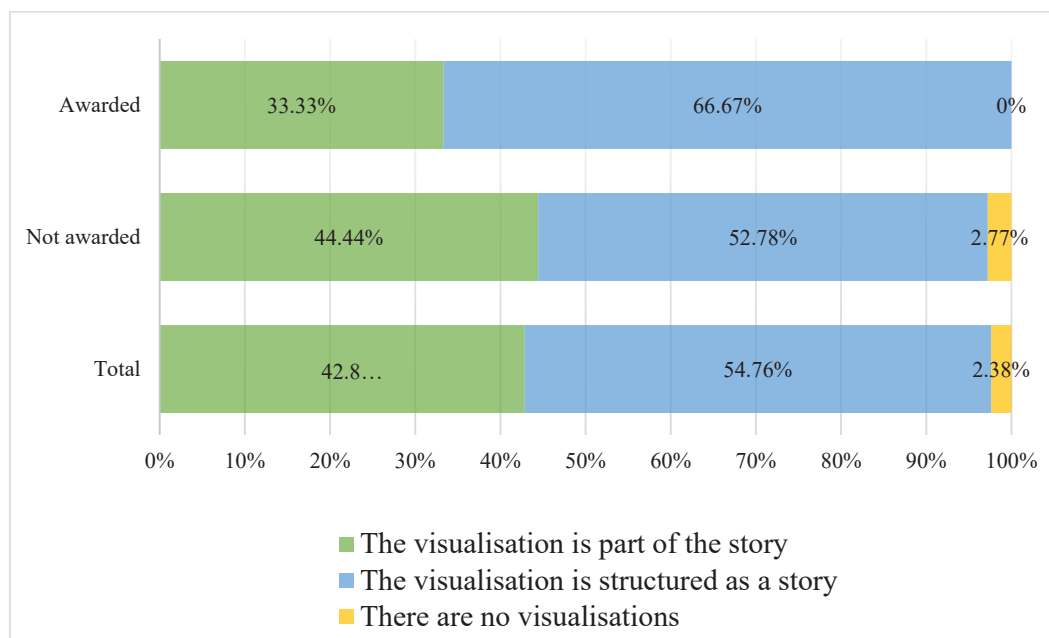

Source: created by the authors

If we focus on examining the award-winning publications, there is a clear preference for positioning the visualisations as the centre of the stories (66.70%), leaving the text in the background. This function is in line with the predominant use of structured infographics, such as scrollytelling in the award-winning items. In the works without an award, the proportion of the projects that opt for one or another function is similar, so there is no clear preference for one of them (in 57.80% of the cases, the visualisation is structured as a story and is the centre of the item, in 44.4% it is incorporated to add value to the text itself and is complimentary, while in 2.78% no visual element is included).

In general, data visualisations usually show associations between variables (57.14%) and temporal evolutions (52.38%), leaving aside those that choose to compare figures (28.57%) or provide other information (14.29%).

No substantial differences in this sense can be seen in the awarded items. The works show connections and flows (66.70%), changes in time (50%), and comparisons (50%). Four of the six awards -. winners focus on representing the data with a single mission, while the remaining two combine some of the purposes mentioned above. It is similar with the non-awarded ones: predominately those that show relationships between variables (55.56%) and those that show modifications in different periods (52.78%), followed by those that focused on comparing figures (25%).

Figure 3: Part of the infographic of the project "How the Thai cave rescue mission unfolded" from the *South China Morning Post*
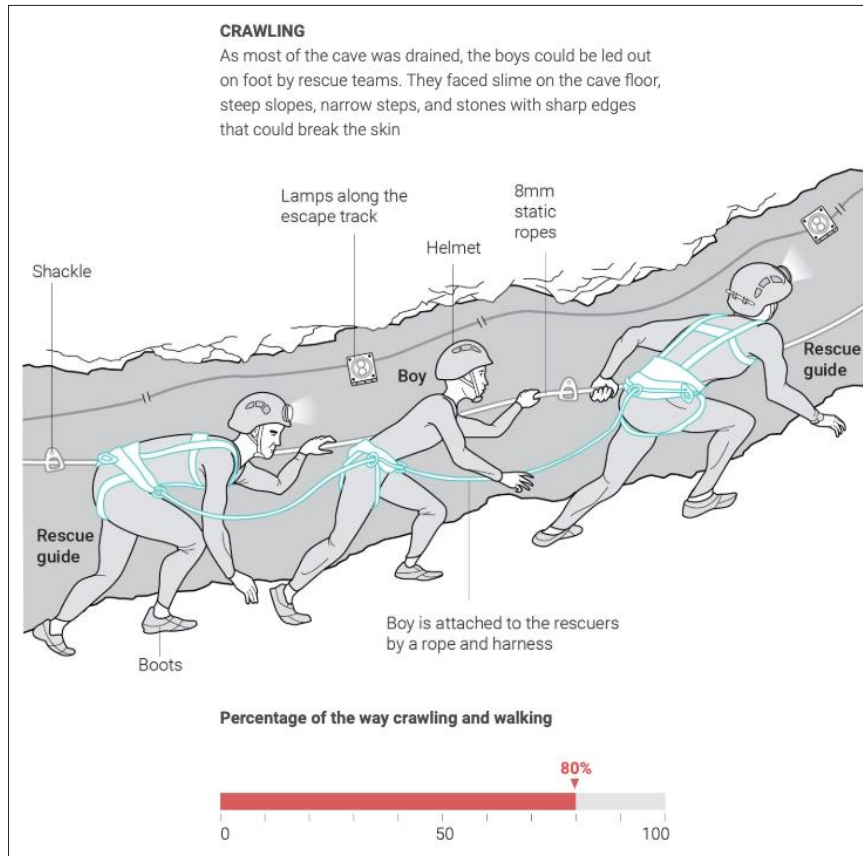
3.3. Interactivity of the visualisations

Considering only those projects that incorporate visualisations (n=41), in the sample examined the works with static visual elements predominate (53,66%), ahead of those that use mixed techniques – mixing static and interactive visualisations– (34.14%) and those that are purely interactive –all visual elements allow for interaction– (12.9%).

Figure 4: "Miseducation" project by *ProPublica* and *The New York Times*
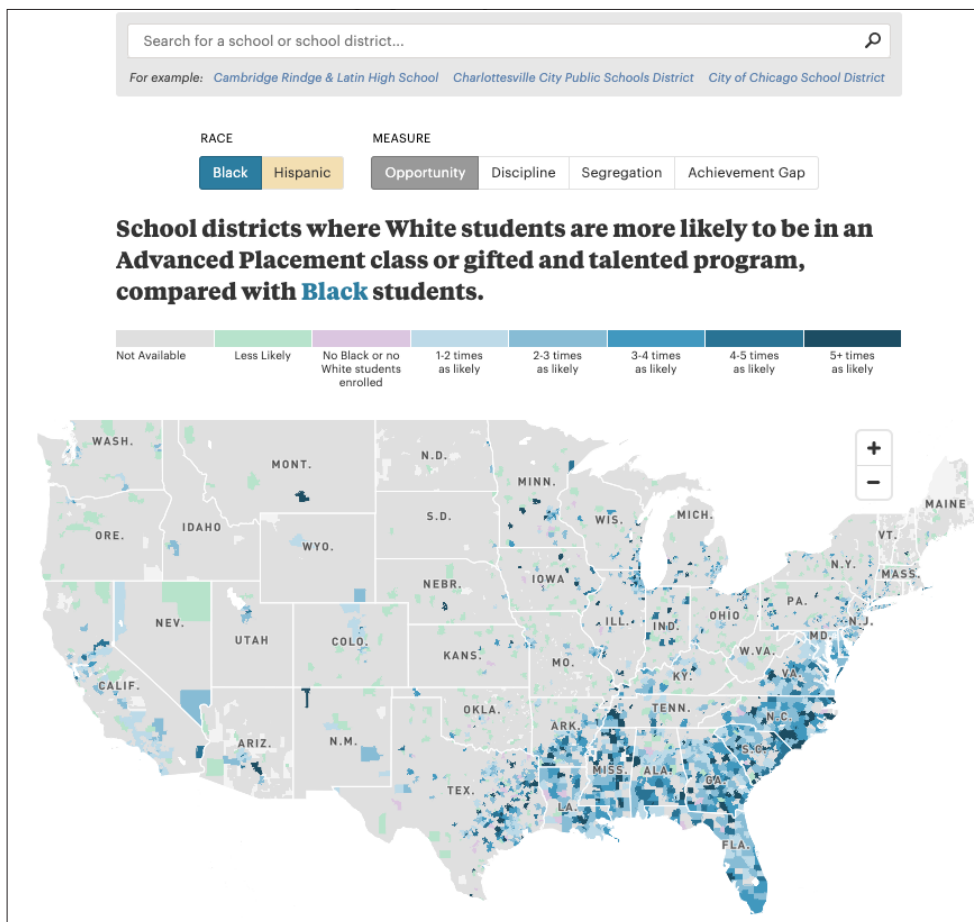
As shown in Table 2, all the interactive visualisations examined (100%) include the option to browse the resource for details on request, mainly by moving the cursor. Other alternatives, such as filtering the information (47.37%), selecting elements to highlight something in the graph (21.05%), and summarising by adjusting the levels of vision (15.79%), are located at a greater distance. To a lesser extent, components are added to highlight associations and relationships between the data (10.52%), personalise visualisations by entering personal data (5.26%), and guide the reader through the story (5.26%).

Table 2: Distribution of the functions of the interactive visualisations

Interactive functions	Nominados	Premiados	TOTAL
Exploring	100%	100%	100%
Connecting	5.89%	50.00%	10.52%
Selecting	17.64%	50.00%	21.05%
Filtering	52.94%	-	47.37%
Summarising	11.76%	50.00%	15.79%
Reconfiguring	-	-	-
Narrating	-	50.00%	5.26%
Interacting with games	-	-	-
Personalising	-	50.00%	5.26%
Other	-	-	-

Source: created by the authors

By focusing the study on the awarded works, it is observed that the visualisations are divided between static (66.67%) and "purely" interactive (33.33%). Except for the option to explore, which is incorporated in all the interactive works, there are no notable differences in the rest of the functions, since the possibilities of connecting, selecting, personalising, narrating, and summarising are used to same extent (50%). In the nominated projects, 50% of static displays are shown, 38.89% of mixed visualisations, and 8.33% purely interactive. Slight divergences are found here, as the functions are used differently, browse (100%), filter (52.94%), select (17.64%), summarise (11.76%), and connect (5.89%).

4. Discussion and conclusions

One of the main objectives of this study (O1) is to determine the characteristics of the visualisations incorporated into the referenced data journalism stories, those nominated for the 2019 Data Journalism Awards to offer a current analysis of their use.

Along similar lines to those in Knight's research (2015), Loosen, Reimer and Schmidt (2017) and Stalph (2017), the works in the sample include an average of two visualisations per item (M=2,40), most often incorporating a single one structured as a story, giving it more space than the text in general. The visualisations mainly focus on showing relationships or associations between variables and temporal changes, an indicator similar to that obtained in the previously mentioned works (Knight, 2015; Loosen, Reimer and Schmidt, 2017; Stalph, 2017), in which they compared values and reflected changes over time.

The lack of a common operalisation for identifying the types of visualisations and the interactive functions means that there are divergences in the investigations when establishing patterns. In this study, as in the one carried out by Knight (2015), infographics is the most frequent form of representation. The author states that this element gives the quality of the item, which could be related to the use of this type of visualisation in the awarded items.

Although there are studies that claim that data journalism rejects linear storytelling in favour of interactivity to improve the user experience (Borges-Rey, 2016), this research reinforces the position of those who found a trend towards reduced interactivity (Loosen, Reimer & Schmidt, 2017; Stalph, 2017; Tandoc and Soo-Kwang, 2017; Young, Hermida, and Fulda, 2018; Ojo and Heravi, 2018; Appelgren, 2018). The results show the predominance of static visualisations, ahead of mixed and strictly interactive ones. Stabe (2016) had already predicted that designers would become users. Giving them total freedom to modify the information was misleading and that those who did the projects examined seem to have understood this. This reduction in interactivity is closely related to including more specific and more basic interactive functions in the visualisations, exploring, filtering, and selecting. In this sense, it is expected that the number of animated visualisations that capture sequences of different graphics will increase, reducing the reader's responsibility and facilitating the interpretation of the information. As Appelgren (2018) highlighted, it would provide a sense of interactivity, but it would be the journalist who decides what to show.

The detailed analysis of the visualisations has allowed us to meet the second objective of this research (O2), which is to identify differences and similarities in the visualisations among the nominated and award-winning stories. The results point to three differentiating elements:

– The function of the visualisations within the stories. The award winners and the visualisations structured as a story prevail, giving greater visibility to the design and visual development than the text. At the same time, in the nominees, there is no defined function. Perhaps the commitment to the design because the graphic representation of information adds quality to the story, which would explain the lack of text-based nominated projects.

– The use of interactive visualisations. In the winners, static visualisations predominate, while the rest are purely interactive. Although the nominees are also predominately static, the rest of the works combine this with interactivity, reducing the number of strictly interactive items. Despite the statics prevailing in the award-winners and some differences, it is not considered a determining component for obtaining recognition. At least, it does not seem that this characteristic conditions the quality of the work.

– The elements of interactivity are added. In the winners, all the functions are used to the same extent, whereas in the nominees, there is a more significant disparity in this sense. It is especially striking that only the award winners opt for storytelling and personalisation, which involves the reader in the information and guides them through the story. It is thought that the incorporation of these elements has an impact on the quality of the item since it enables users' data to be integrated and allows them to adjust the content to their needs.

On the other hand, it does not seem to affect the other variables such as:

– The number of visualisations per item. Both nominated and award-winners include, for the most part, a single visualisation.

– The type of visualisations incorporated. Infographics are the most used visual element in both cases; this dominates more in the winners, as it is presented as a scrollytelling and is not combined with other visualisations.

– The representation of the information. Both nominated and award-winners coincide in showing associations between variables and temporal changes.

Regarding objective three (O3), it is possible to outline two cores of interactive elements according to their purpose. On the one hand, some satisfy information needs, limiting themselves to offer more or less detail. This point would include: explore, connect, filter, select, and summarise. On the other hand, those focused on attracting, retaining, and visually pleasing the reader, with the possibility to model the information as they wish. This would include: reconfiguring, storytelling, interacting with games, and personalising.

The few interactive functions and the limitation of the user's responsibility would explain the wide use of the first group in this work. The incorporation of functions from the second group is more complex and requires more dedication, and the work needs to be deconstructed with figures. As previously mentioned, the use of these types of functions is considered conclusive for obtaining recognition.

This research intends to show the importance and volatility of using visualisations in data journalism's communicative process. This article provides two main contributions: it offers an analysis of visualisations in the best data journalism stories. It unifies criteria for categorising visualisations and the interactive elements incorporated in this media practice. It is worth noting the peculiarities of the object of study, which, although appropriate for evaluating quality data journalism, is the only specialisation connected to the event's identity. A committee of experts carries out the selection of projects. There is no access to the full list of applications submitted (607 publication) or the criteria that led to this assessment. However, although a certain lack of transparency is found, these publications mark the future trends in data journalism practice as they incorporate a diversity of resources and formal innovations.

Despite the changing nature of the visualisations, the guidelines recognised in the review may be valid for understanding data journalism materialisation and how numerical information is represented. Specifically, these results can operate as indicators of the reality in competitions such as the Data Journalism Awards. To expand on the findings set out here, it would be interesting to transfer this study to daily data journalism items to see how this tool is adapted and to identify differences in the types of visualisations and functions.

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