Journalism Research

Edited by Bernhard Debatin, Petra Herczeg, Gabriele Hooffacker, Horst Pöttker und Tanjev Schultz

TABLE OF CONTENTS

Newsgames in journalism
Exploitation of potential and assessment by recipients

by Cornelia Wolf & Alexander Godulla

Abstract: The digital transformation is still presenting established media organizations with huge challenges. Younger generations socialized by multi-optional end devices such as smartphones and tablets have very different expectations of what the content and form of journalistic products should look like. It is therefore no wonder that media organizations are exploring one of the world's most lucrative markets, with many launching newsgames under their own brand in recent years. This hybrid form between journalism and gaming offers high selectivity and brings current or past events and the processes behind them to life. But journalism research is yet to pay much systematic attention to this new convergence field. This paper therefore starts by systematically limiting and defining the term 'newsgames', referring to literature from communication studies and computer game research. Based on a content analysis of 36 international newsgames, it then goes on to examine which aspects of form (game design) and content (topics, interactivity) newsgames display and which revenue models are integrated into them. Finally, 60 qualitative interviews enable the authors to determine how young users assess newsgames and whether consuming such games can generate greater awareness of and interest in established media brands and journalistic content. The investigation shows that media organizations are doing little to exploit the wide range of design options. The games receive a muted reception and show little in the way of positive effects for the media brand. Furthermore, newsgames do not generate any appreciable desire to find out more about the topic.

The establishment of stationary and mobile internet and the associated distribution of journalistic information via digital end devices have had a huge impact on journalism. This transformation is still presenting established media organizations with huge challenges.

The media consumption behavior of younger cohorts in particular is now strongly focused on online media. More than two thirds of 18 to 24-year-olds consume news via social networks (Newman, Fletcher, Levy, & Nielsen 2016: 87). According to the Digital News Report 2017, online media including social media was the most important source of news for 64 percent of 18-24-year-olds and 58 percent of 25-34-year-olds in all countries examined worldwide. The medium attributed the least relevance was the printed daily newspaper, consumed by just five percent in each of these cohorts (Newman et al. 2017: 10).

Furthermore, having been socialized with multi-optional end devices like smartphones and tablets, younger age groups have different expectations of how media products should be presented (cf. e.g. Wolf 2014; Godulla & Wolf 2017). This is leading to changed requirements for how the form and content of both current news and background reporting should look (Godulla & Wolf 2017; Sturm 2013).

Although successful brand transfer means that many digital products from established media organizations are in use (e.g. Bitkom 2016; van Eimeren & Koch 2016; Wolf & Schnauber 2015), international studies repeatedly show that the audience is rarely willing to pay for digital news. For several years, the Digital News Report has consistently shown that the percentage of people who say they have paid for online news in the last year remains in single or low double figures in countries such as Germany, the United Kingdom, France, and the USA. In Germany, just three percent have taken out a paid digital subscription (Newman, Fletcher, Kalogeropoulos, Levy, & Nielsen, 2017, p. 24).

It is therefore no wonder that media organizations are turning their attention to neighboring fields. While journalism is struggling with the digital transformation, the video games industry, for example, has developed into one of the world's most lucrative markets (Foxman 2015: 4). Sales saw rapid growth in 2016, ranging from a plus of four percent in North America to 20 percent in Latin America. In total, the worldwide games market generated sales of USD 99.6 billion (up 8.5%) (Newzoo Games 2016: 10). Digitalization, and especially the wide variety of internet-enabled and mobile end devices, has diversified the games market immensely. From an economic point of view, games consumed on a computer screen are especially important for generating sales (USD 31.9 billion) (Newzoo Games 2016: 12).

A few years ago, media organizations began to produce newsgames in order "to increase levels of readership and user engagement" (Conill & Karlsson 2016: 5). As well as tapping younger audiences through the use of new forms of storytelling, the opportunity for new revenue models is another aspect that makes the games market interesting for both media organizations and journalism research. This is giving rise to a growing field of indie games developers and publishers (Foxman 2015) who experiment with new ways to generate income. Put simply, "many hope that newsgames offer an innovative strategy in the fight for the scattered attention of online users" (Plewe & Fürsich 2017: 12).

Newsgames can thus be seen as a hybrid of journalism and gaming (Bogost, Ferrari, & Schweizer, 2010, p. 13). Many types offer their audience greater selectivity – they involve the audience in storytelling by offering predefined selection options (Aarseth 1997; Schrape 2012). "Given the popularity and cultural impact of computer games, it made sense that news also adapted this form of digital storytelling to convey information" (Plewe & Fürsich 2017).

Although the issue of convergence has attracted attention in various contexts in journalism research, little attention has so far been paid to the way journalism and digital games are converging (Vobič, Dvoršak, & Vtič 2014: 123f.). Of the few studies that do focus on newsgames, the majority pursue

the legitimate question of whether they can be considered a new form of journalism, and usually refer to case studies (e.g. Bogost et al. 2010, 2010; Meier 2017; Plewe & Fürsich 2017; Vobič et al. 2014). Newsgames are yet to be analyzed systematically from the perspective of form and content. In addition, there is the question of how young audiences assess newsgames and whether their use can generate attention and interest in established media brands and journalistic topics.

1 Question and method

In order to answer these questions, this paper first limits the term 'newsgames' and then uses references to literature from communication studies and computer games research to systematically develop dimensions that create a framework for the form and content of newsgames.

Finally, a quantitative content analysis is used to examine the form aspects of game design – game design, game mechanics, and gameplay (Bunchball 2010) – the content design of the games – themes, genres, interactivity, purpose and scope (Djaouti, Alvarez, Jessel, & Jean-Pierre 2011: 8) – and the integration of revenue models such as paid content and advertising (Foxman 2015). The sample comprised 36 newsgames from around the world, listed in the Serious Games Directory (D'Agostino 2016). Only games produced or published by established media organizations or journalistic editorial offices were included.

The second step examines the potential recipients of these games. A sample of 60 people aged 20 to 29 years – the group least likely to pay for news content – was given six prototype newsgames to play. They were then asked to take part in qualitative guided interviews to find out whether they remembered the topic, the core message, and who had published the game. We also wanted to find out whether the games made the participants want to learn more about the topic addressed.

The investigation shows that media organizations are far from using the full range of design options for the form and content of the games they produce. The results of the reception study indicate that the journalistic games tested have no positive influence on the media brand, with most participants failing to recognize or remember the organization's brand. A quarter even thought that the games were published by the wrong company or a non-profit organization. Furthermore, consuming newsgames did not make the participants want to find out more about the topic addressed in the game.

2 Newsgames in digital journalism

Researchers' lack of interest in the convergence between journalism and digital games is all the more astounding given that so many established media brands, including the New York Times, the Guardian and the Süddeutsche Zeitung, are already experimenting with newsgames (e.g. Bogost, Ferrari, & Schweizer 2010).

There is currently no definition that is applied consistently. As a general definition, newsgames are a hybrid of journalism and gaming (Bogost, Ferrari, & Schweizer, 2010, p. 13). They combine "real-world based sources with virtual interactive experience and procedural rhetoric, thus opening space for dynamic experimentation, stimulating further in-depth analysis and discussion" (Wiehl 2014). The range of topics they cover is broad, extending from shitstorms (Shitstorm Fighter, BR), war and migration (Darfur is Dying, MTVU) to tax evasion (Arte) and climate change (Climate Challenge, BBB). For the latter, the BBC explicitly states that "wherever possible, real research has been incorporated into the game" (BBC 2014).

Key characteristics of newsgames include competition, players proceeding according to strict rules, and efforts to achieve specific aims (Deterding et al. 2011). Climate Challenge, for example, presents a complex topic of current relevance to society in the form of a game. Playing the role of the President of European Nations, players have to take measures to reduce CO2 emissions while also managing to stay in office. This involves weighing up their strategies with the necessary resources and negotiating with other politicians. According to the BBC, the aim of the newsgame is to "give an understanding of some of the causes of climate change, particularly those related to carbon dioxide emissions; give players an awareness of some of the policy options available to governments; give a sense of the challenges facing international climate change negotiators" (BBC 2014).

2.1 Definition of newsgames

Some authors have established central features that define newsgames. Aspects that are relevant to the framework of newsgames applied here are systematized and summarized below:

Reference to current events: "Newsgames all refer to actual events, current or past, with most of these events standing in the context of bigger social, historical or political issues" (Plewe & Fürsich 2017: 3). The name 'newsgames' can thus refer to more than just the day's news, making Sicart's (2008: 27) definition insufficient in talking explicitly of "current news." In fact, the potential of newsgames lies not in reporting current news, but in communicating the context and background surrounding this news (Burton 2005: 96) – thus taking up exactly the part of journalism that has been squeezed out by the internet's increasing pressure to be up-to-date. Newsgames could therefore offer the same opportunity as the establishment of digital long forms: "The stronger focus on story-oriented journalism that sometimes exploits other internet-specific potential and whose content is based on substantiated research into relevant topics could be an opportunity (…) to create unique selling points" (Godulla & Wolf 2017: 23).

According to Meier (2017: 51), "the word 'news' should be taken to mean not only 'today's news', but 'journalism' in general.", thus ensuring that it is linked to events in terms of time. This subtly distinguishes newsgames from games whose purpose is education and the communication of knowledge (Meier 2017: 53). In addition, it means that newsgames are created to accompany specific events and are not necessarily intended to be played multiple times or to enter the collective

memory (Sicart 2008: 28).

Communication of information: Although games are a form of entertainment, only games whose core message contains "at least a little information value" are considered newsgames (Meier 2017: 52-53). This also means that the game or the processes depicted in it are based on facts and go beyond mere entertainment (Sicart 2008: 28) – although they may be enhanced with fictional elements or conceivable scenarios (Wiehl 2014: 2).

Procedural rhetoric: Just like digital games, their artificial rules give newsgames a "persuasive direction" (Plewe & Fürsich 2017) – they have an agenda that is presented not as the truth, but in the form of arguments (Sicart 2008: 29). Bogost, Ferrari and Schweizer (2010) describe this as procedural rhetoric, meaning that the rules, mechanics, and building blocks of the game are used to apply the specific perspective of the producers behind the game to the topic (Sicart 2008; Treanor & Mateas 2009):

"[D]igital games do have the potential to serve as a mode for exploring intricate interdependencies, to adequately present complex facts, to make qualified arguments and to stimulate critical thought. In our eyes, the emerging genre of newsgames can very well be used for expository, explanatory and persuasive matters as well as for making differentiated comment" (Wiehl, 2014).

The content is thus communicated less through a narrative than through the workings of the game. The key advantage of this compared to other formats is that it enables users to experience and manipulate the events presented in the game themselves during the reception process, using the system of rules provided in the game. As a result, mechanisms and reasons for certain developments can be presented from different perspectives (Plewe & Fürsich 2017; Wiehl 2014). Newsgames must therefore also be distinguished from 'news quiz' formats, which communicate information in a purely narrative form.

Production by media organizations: Meier (2017: 52) argues that the term 'newsgames' should be reserved for games whose producers play the role of outside observers in society and are thus distinguishable from communicators whose actions are guided by their own interests.

"Newsgames are therefore games that are part of independent journalistic reporting. This may include statements of opinion, as long as these are labelled as such and separated from news" (Meier 2017: 52).

Ease of access: Media organizations or editorial offices often provide the games simply via a web browser or as a downloadable app for mobile devices (Bogost, Ferrari, & Schweizer 2010; Sicart 2008). In order to reach the widest possible audience, newsgames usually make use of game mechanics that are already established, allowing fast and easy access to the game content (Bogost, et al. 2010; Plewe & Fürsich 2017; Treanor & Mateas 2009).

2.2 Specific features of the form and content of newsgames

In order to present their content and tell their stories, newsgames can use classic elements of game design (rules, mechanics, building blocks of games) and combine them with established features of the internet (selectivity, multimediality, interactivity, linking) both within or around the game (Wiehl 2014: 2).

The dimensions relevant to this are explained in more detail below, so that newsgames can be described and investigated more precisely. The games are not classified into different genres, as has been done before (e.g. Bogost et al. 2010; Wiehl 2014).

We assume that the full spectrum of genres of digital games is potentially available for newsgames. However, it is important to note that incorporating current events often results in significantly shorter production times than is usual for digital games in the entertainment sector:

"Newsgames […] have to be produced and launched while the news are still relevant, not only to participate in the public debate, but also for the game to have any meaning. Newsgames have very focused designs that tend to afford narrow but deep interaction, playing with game design conventions and genres that allow for faster implementations" (Sicart, 2008, p. 30).

Newsgames are part of the 'serious games' category of computer games, which comprises games that are not solely for entertainment (Laamarti, Eid, & El Saddik 2014). Within this category, they fall under 'persuasive games':

"A relatively new field in games research, persuasive games, or games meant to change the attitude or behavior of the player through game play […] have the potential to act as powerful vehicles for learning through persuasive mechanics" (Ruggiero 2015: 213).

One approach to classifying serious games incorporates three dimensions: the G/P/S model (Djaouti, Alvarez, & Jessel 2011: 125).

The first dimension is the "gameplay" on which the game is based. This can be based on a goal (game) or on playing for its own sake. Goal-oriented games contain clearly-defined tasks that may or may not be completed. In contrast, in a play-based game there is no winning or losing.

The rules of games can be broken down into individual game bricks, different combinations of which can also be found in newsgames. Djaouti, Alvarez, Jessel, Methel and Molinier (2008) define ten of these bricks, which can be divided into three explicit parts (avoiding, adapting/coordinating, destroying) and seven means and conditions that define how these goals are achieved (creating, managing, moving, selecting, shooting, writing, chance).

Secondly, "purpose" refers to the purpose of the game beyond mere entertainment. Newsgames are used to communicate information or a specific message in relation to a topic that is relevant to society (Djaouti, et al. 2011: 128; Deterding, et al. 2011). The fact that the core message is not hidden, but clearly visible, is a specific criterion of the game design of newsgames (Sicart, 2008: 31).

The form of presentation corresponds directly to those established in classic journalism (news/reporting; feature; opinion piece; interview) and the features on which they are based:

"[G]ames do have the potential to serve as a mode for exploring intricate interdependencies, to adequately present complex facts, to make qualified arguments and to stimulate critical thought. In our eyes, the emerging genre of newsgames can very well be used for expository, explanatory and persuasive matters as well as for making differentiated comment" (Wiehl 2014: 2).

To do this, persuasive games use mechanisms from advertising and marketing. One example is immersion (Ruggiero 2015: 214), which is created in games by placing the players in a simulated location that demands their full attention (Murray 1997; Ruggiero 2015).

Three dimensions are relevant here: diegesis, point of action and point of view (e.g. Neitzel 2013). The first term refers to the question of whether the game creates a world in which the action takes place. Secondly, the player can either conduct his/her actions from outside this game world or be located inside that world, and can conduct his/her actions from different positions (point of action) (Neitzel 2013: 16-18). This gives rise to two pairs of terms: decentral (i.e. from multiple positions) vs. central and direct (i.e. each command leads to an action) vs. indirect (e.g. by clicking on items, which an avatar then approaches). The third crucial dimension is the visual angle from which the game can be played (point of view), i.e. "a certain perspective on the fictional action of the game" (Neitzel 2013: 20). Three options are conceivable here: The perspective is objective if there is no specific point from which the game is viewed; it is semi-subjective if the game is organized around

an avatar that is visible from outside; and it is subjective if the game is seen directly from the point of view of an avatar (Neitzel 2013: 10-16).

The content on the topic in the game can be presented either additively as the game progresses, or surrounding the game in the form of further information provided in journalistic (multimedia) form. This might include links to primary sources, videos, photos or journalistic texts.

The third dimension of the G/P/S model is "scope" and refers to the sub-section of society for whom the game was produced. This category does not apply to newsgames, as their system of reference is always journalism. The sub-sections of society and the topics referred to in the game are therefore much more important.

In conclusion, it is clear that the visual and verbal design is not the only relevant aspect of computer games. Ideally, a player becomes immersed in the game through an attractive combination of goals, entry elements, and feedback, supplemented by social elements of a communication space and tools used for communication, which together generate "engagement" and ultimately a state of "flow" (Csikzentmihalyi 1990; Fu 2011). Numerous studies claim that greater involvement of the players also increases the level to which the topic is evaluated from the perspective presented (Ruggiero 2015).

This effect is achieved through the integration of specific game mechanics that correspond to human needs (Bunchball 2010): points (reward), level (status), tasks (performance), virtual commodities (self-expression), rankings (competition) and giving/charity (altruism).

In addition, games can be designed as a way to exchange data between the player and the organization responsible for the game. This might include direct registration, a link on Facebook, or interaction between players, be it in real time or with a time lag. Social networks and specially-created websites may also be integrated (Deterding 2010; Djaouti et al. 2011: 128). The options social media provide for related communication can thus be made use of and become part of the game: The option of sending a message from the game via email or in social networks is one example. The game could also be forwarded or shared via similar channels. Topics addressed in the context of the game can become the subject of interaction in a forum or chat, or inspire users to create their own multimedia content.

Internet features like this can also be used to produce 'social games' in which players can interact with one another either at the same time or, more commonly, with a delay. This can be achieved either via certain objects or by using digital friends as tokens, for example by incorporating the size of the friend network into the game (Deterding 2010: 7).

How easy games are to use depends largely on the entry mode, i.e. whether commands are given by gestures, by clicks or via external end devices such as gamepads. Another factor is the game's graphics (2D or 3D), and whether it provides virtual reality, or works with augmented or mixed reality. Finally, whether the game is context-sensitive, can be played on mobile devices or online, and whether social components are involved (single or multiplayer modes) all also make a difference

(Laamarti et al. 2014). It is a good idea for newsgames to be based on established game mechanics that are easy to understand, as players are not usually willing to invest significant time in learning new commands etc. (Sicart 2008: 31).

Our work is based on the following definition:

Newsgames are published by media organizations and/or editorial offices working in journalism and made accessible online or on mobile devices for reception by a potentially broad public sphere. They use classic elements of game design (rules, mechanics, game bricks) to present information on current or past events of relevance to society procedurally. They can combine these elements with specific features of the internet (selectivity, multimediality, interactivity, linking) either in the game itself or in the context of the game. As he/she plays, the user actively experiences processes, backgrounds, reasons, and perspectives by taking selective decisions within the game.

3 Newsgames and their reception

Some studies have already examined the production process, individual games, and their reception, usually using case studies (Plewe & Fürsich 2017; Sicart 2008; Vobič et al. 2014). In many of these, the authors focus on the question of whether newsgames can be seen as a new form of journalism (e.g. Bogost et al. 2010; Plewe & Fürsich 2017). Initial results indicate that their production is still relatively unprofessional, and that the games are developed without following strict rules. The different production logics also present challenges (Vobič et al. 2014).

Reception studies that look at the audience for newsgames are also rare. Initial results on the reception of journalistic internet production in general seem to show that the audience considers selective content useful, as it makes issues easier to understand and allows the audience to become more involved (Brook 2013; George-Palilonis & Spillman 2013; Godulla & Wolf 2017).

However, there is still little broad knowledge of the design of newsgames and the optics they cover. The question arises of how the content and form of these games is designed in order to produce a public sphere for relevant topics:

FF1: Which aspects of game design are used in newsgames?

FF2: Which internet-specific features do newsgames use?

FF3: Which topics and sub-sections of society are covered in newsgames?

When it comes to the reception, it will be especially interesting to see whether newsgames really can be a way to acquaint young adults with news and established media organizations:

FF4: Are the newsgames developed by journalistic organizations suitable for arousing the interest of

young adults in topics relevant to society and in the media organizations responsible?

One of the first investigations into how well-known newsgames are, their communication performance, and the criteria that make them a success was undertaken by Meier (2017). The results indicate that there is little awareness of the term newsgame, although half of those surveyed were able to remember the media organization as the source after the game and recognized the topic of the game. Less than half felt that the game had given them added information value. However, the investigation was not specifically tailored towards the young audience.

4 Design of the study

The population for the content analysis is a list of games known as the Serious Games Directory (D'Agostino 2016). In order to be included in the study, a game had to meet the definition of a newsgame developed above. As such, the game had to be targeted at the general public and not, for example, designed as a teaching aid or for a specific location (e.g. a museum). In addition, the study only included applications and games that communicate information or a core message. The games also had to meet the journalistic criterion of relevance, i.e. refer to current or updated events and topics of importance to society. Finally, games that were no longer available at the time of the analysis were removed from the sample.

36 games were included in the investigation. All of them come from countries that are among the top ten in terms of games sales: Brazil, Germany, France, the UK, Canada, and the USA (Newzoo Games 2016: 15).

The following dimensions provided the framework for examining the newsgames:

Game technology (game genre, graphic design, dimensions, access, navigation, game duration, tutorial, music)

Game mechanics (diegesis, point of action, point of view, gameplay, motivation system, bricks)

Connected communication (interaction, participation, context, incorporation of facts, call to action, presence of the media brand)

Purpose (topic, range of topic, core message, reference system, setting, type of communication)

A sample of 60 people was recruited in order to answer research question four. All the participants were aged between 20 and 29 years, putting them in the group of users least likely to be willing to pay for news. All of them were given the opportunity to play one of five different prototype newsgames: Shitstorm Fighter (BR), Der Metadatensauger (ZDF), Darfur is Dying (mtvU), Sweatshop (Channel 4) and Zeitbombe Steuerflucht (ARTE). They were not given any instructions regarding the games. After playing, they were questioned on their knowledge of the source of the

game and on whether the games made them want to receive more information on the topic. There was also a focus on assessing individual aspects of the game design.

5 Results

The majority of the games investigated were produced in 2012 or later, with almost a quarter dating from 2014. A few media organizations that often attract attention with innovative digital projects are represented particularly often as game publishers, including the New York Times with four of the 36 games and the Guardian with three. Almost a third of the games (10) are published by television broadcasters. Given the small sample in the content analysis, the results are shown as absolute figures. Where not mentioned in the text, the figure is shown in brackets.

5.1 Game design

The vast majority of the games are accessed via a browser (34), with two requiring the game to be downloaded onto a PC/Mac. The option of offering games via social networks (2) or as a mobile app via an app store (3) is rarely used.

Social components are also very rarely integrated into the games. Just one game enables simultaneous interaction in the form of a multi-player mode. The option of asynchronous interaction in between players, such as through objects, is not provided.

The newsgames were classified based on the classic game genres. There is a clear preference for casual games (13) and simulation games (13), followed by strategy games (6). The most common form of presentation is illustration or graphical depiction (15); a quarter are presented with retro graphics; five display a form of editing very uncommon in computer games, namely using real photos, videos, and/or maps combined with text. Another four games are designed as cartoons/comics. The majority are in 2D. Music is used in 15 games, mostly in the form of electronic instrumental music (14). In one case, the lyrics of the music refer to the topic of the game.

The most common setting for a game is the real world in the present (26), followed by the real past (5).

Navigation is generally very simple. The three mobile versions do not integrate any mobile-specific hardware components, using neither the camera nor GPS nor the acceleration sensor. Only one of these three games permits navigation via gestures. Almost all the newsgames are navigated through clicks (35), with around a quarter requiring further commands via a keyboard. Navigation options that require more technology, such as gamepads (1) or virtual gamepads (1), are rarely integrated.

Most of the games (20) contain their own game world (diegesis); in most of them, the players'

actions occur directly (19), centered (20), and from this world (11). 31 newsgames have an objective point of view, with just three played from a subjective point of view.

Most of the newsgames are designed as goal-oriented games (28), although each of the explicit goals of avoiding (11), adapting/coordinating (11), and destroying (3) is only used in less than a third of the games. The vast majority of the games allow players to select something (32), most commonly the main person in the game. More rarely, players are asked to move things (10), manage something (9), or write (2). Chance plays a role in six games.

To motivate players, the newsgames examined use the incentive and reward systems typical of computer games, but with little variety: Players are able to generate points (20) and complete various tasks (8). Rarer forms of motivation include division into different levels (7), the allocation of virtual goods (6), awards (5), a ranking (4), rewards/prizes (3), and giving/charity (1).

Most of the journalistic games take little time to play, with more than half (58%) lasting less than an hour. Two thirds (67%) offer a tutorial that explains the most important features and mechanisms.

5.2 Use of internet-specific features

Further information on the topic is integrated directly into 24 games. It is usually presented in the form of text (24), followed by graphics/animation (10), links (10), photos (8), audio (4), and videos (3). The links provided most commonly lead to project websites or the websites of organizations (8), followed by the website of the media company (6) and other media reports (6). In addition, facts are presented in the context of the game in 29 cases. Again, this is mainly done in the form of text (26), links (23), and graphics/animation (10), followed by photos (9), videos (5), and audio (1). Links surrounding the game most commonly lead to the media organization's own website (19), other media reports (14), and specific project websites or websites of organizations (13). Links to the media organizations' pages on social media are rare, with Facebook (6) leading the way.

Only a minority of the media organizations offer interactive and participative opportunities in the form of a call to action. Users can create their own content in eight of the games; six offer the chance to discuss in a forum or chat; seven call on users to visit the media organization's website. In five games, the character or game can be personalized. It is much more common for users to be asked to share or forward the game (25), or for them to have the option of sending a message from the game (13). Only one game can be influenced by real behavior. In some cases, the media organization offers the option of subscribing to its newsletter (4) or adding it on Facebook (3). There were no demands to buy or subscribe to products from the media organization, although other products or merchandizing items are offered in two cases.

Nor do the media organizations use the newsgames to generate advertising revenue, with no advertising included before or during the game. Only three games include advertising in the context of the game. In addition, all the games are provided free of charge and do not require transactions

within them.

Not all the games can be clearly attributed to a specific media organization. The logo or name of the organization is shown at the start of 16 games and at the end of another five, while it is permanently on screen in eleven newsgames. Similarly, few of the games create a reference to the media organization, such as by connecting the character (5), individual objects in the game (8), or the game world (11) to the organization.

5.3 Segments of society addressed and presentation of content

The vast majority of the newsgames examined (33) refer to hard news. In 18 games, information is designed in the form of news or reporting, mostly placed in a particular scene (22) and personalized (24). Only around a third of the games communicate the information with comment (11) or contain comment elements (15). Data is only passed from the player to the publisher in three games.

The newsgames cover various segments of society, often addressing multiple segments within the same game. The most common subject is political topics, relating to the state and government (22) and political processes (23). Other topics covered less frequently include humanitarianism (11), economic processes (11), defense and the military (9), health (8), and journalism (8). Newsgames rarely show an interest in businesses (6), education (5), ecology/the environment (5), religion (3), sport (3), science and research (3), or art and culture (1).

In most of the games, the core message is clear (27). The topic is equally likely to relate to the individual (27) as to the national level (27). Global (18) and local (16) aspects are in the spotlight less often. The game usually focuses on individuals (28), groups (23), society (21), or the state (20), either individually or in combination. Specific organizations (13), a specific sector (10), or the publisher itself (4) are rarer as reference points.

5.4 Assessment by the audience

In the reception study, after playing the games, the participants took part in interviews in which they were asked to assess elements of the game design (graphics, music/sounds, ease of use) on a scale from 0 (not successful) to 3 (very successful). The games' ease of use (m = 2.0; sd = 0.9) and graphics (m = 1.9; sd = 0.9) are assessed as successful on average. The average values for the music and sounds in the games are slightly lower (where present; m = 1.4; sd = 0.8). The newsgames are considered not very suitable (m = 1.4; sd = 0.9) for the topics covered in the examples – data protection, tax evasion, child labor, refugees and migration – and are unlikely to make players want to find out more about the topic (m = 1.5; sd = 0.9). In total, the games receive an average score of m = 1.8 (sd = 0.7). A notably low proportion of those questioned said they would recommend the newsgame to friends, for example via social networks (m = 0.8; sd = 0.9).

As well as the personal assessment of individual aspects of the game and the willingness to recommend it to others, newsgame producers were especially interested in whether the games are attributed to the media organizations responsible for them. The vast majority of those questioned failed to remember the media organization as the publisher of the game, with 28 percent naming the incorrect organization and 40 percent failing to name any organization at all.

Two quotes demonstrate this particularly well. Shitstorm Fighter, which is published by Bayerische Rundfunk and demonstrates the time pressure and effects of various reactions when dealing with negative statements in social networks, was wrongly attributed to a non-profit organization: "That was an animal protection organization... it was PETA, wasn't it? I think it was the PETA animal protection organization. That's all I can remember." Channel 4's Sweatshop, which confronts the audience with numerous moral dilemmas in textile production, was attributed to a business: "I saw something about Primark... so I'd say Primark?"

Furthermore, most of the games clearly fail to communicate their core information or topic. The majority of those questioned were unable even to remember the title of the game, with just 13 of the 60 people giving the correct answer. During the interviews, the participants were also asked to summarize the topic. Their responses clearly show that many players do not recognize the idea of the game. The person who linked BR's Shitstorm Fighter with a non-profit organization would have done so in part because the topic of the game is often considered to be animal protection, even though the photograph of a cat used in it is only employed as the trigger for a shitstorm.

6. Conclusion

So what does the future hold for the newsgame market? Will it grow and flourish, as its big brother, the commercial computer game, is doing? Will it inspire an interest in journalism among the young audience that is increasingly shunning it? And finally, does it pay off for media organizations to use this form of communication, which remains so unusual in journalism?

The answers to all three of these core questions are sobering. Given their volume, newsgames are likely always to remain a small, marginal niche. One of the main reasons for this lies hidden in the defined properties of newsgames: Those who want to present information on current or historical events of relevance to society from a journalistic point of view in the form of a computer game are not exempt from the quality standards demanded of journalism. In journalism, no-one can afford to wait months or even years for a certain aspect of a topic to be prepared for a niche audience. It is even less likely that a project like this will enjoy a six-figure budget. But these two elements are fundamental to commercial computer games, which thus appear much more professional than the inevitably basic-looking newsgames.

However, it has been shown that established media organizations have so far done too little to build on the potential to create unique selling points when designing newsgames. Moving further away from the current production logic, which is essentially dominated by the "possibility of constantly

updating content" (Godulla & Wolf 2017: 27), would at least offer an opportunity in the case of complex topics of relevance to society to make more use of innovative storytelling techniques that go beyond merely reporting on news and thus provide recipients with orientation.

The young audience in particular is socialized by a games market that is shaped by huge budgets and constantly provides new attractions. The content analysis proves that newsgames have a lot of catching up to do here – not just financially, but clearly also in terms of the expertise of the producers. There is surely no other explanation as to why these games so often fail to formulate a clear core message and to communicate a clear association with a brand. As well as changing their understanding of topicality, editorial offices therefore also need to think about strong strategic communication and how innovative products can be marketed to specific audiences.

These deficiencies are reflected in the sobering results of the reception study. If young adults to not recognize the messages communicated, do not find them interesting, and do not want to pass them on, then newsgames bring no benefits for journalism or the information it provides. So it is a no to the third question, too? Not entirely. Newsgames could certainly have potential – just not *these* newsgames. Establishing digital games as a version of digital media will take more money, more time, and more planning.

About the authors

Dr. Cornelia Wolf (*1982) has been a Junior Professor in Online Communication at Leipzig University's Institute of Communication and Media Studies since 2014, and was given an unscheduled professorship there in 2018. Her research focuses on the cross-media, digital, and mobile strategies of organizations; innovation and acceptance communication; and the media transformation and the institutionalization of digital media. She studied Journalism and Communication Studies at the Catholic University of Eichstätt-Ingolstadt. Contact: cornelia.wolf@uni-leipzig.de

Dr. Alexander Godulla (*1979) was named Professor of Empirical Communication and Media Research at Leipzig University's Institute of Communication and Media Studies in 2018. His current research focuses on cross and trans-media storytelling, innovation communication, modeling in public communication, and visual communication. He studied Journalism and Communication Studies at the Catholic University of Eichstätt-Ingolstadt and the University of Vienna. Contact: alexander.godulla@uni-leipzig.de

Bibliography

Aarseth, Espen J. (1997): Cybertext. Perspectives on Ergodic Literature. London: John Hopkins University Press.

BBC (2014): Climate Challenge. Why make a game about climate change? http://www.bbc.co.uk/sn/hottopics/climatechange/climate_challenge/aboutgame.shtml

Bitkom (2016): Drei Viertel der Internetnutzer lesen Online-Nachrichten. https://www.bitkom.org/Presse/Presseinformation/Drei-Viertel-der-Internetnutzer-lesen-Online-Nachrichten.html

Bogost, Ian, Ferrari, Simon, & Schweizer, Bobby (2010): Newsgames. Journalism at Play. Cambridge, MA: MIT Press.

Bogost, Ian, & Poremba, Cindy (2008): Can Games Get Real? A Closer Look at 'Documentary'

Digital Games. http://bogost.com/downloads/Bogost%20Poremba%20Can%20Games%20Get%20Real.pdf

Brook, Pete (2013): Smart Readers are Too Distracted to Dig Smart Content. Wired, April 4. http://www.wired.com/2013/04/raw-meet-andrew-devigal/all/.

Bunchball (2010): Whitepaper. Gamification 101: An Introduction to the Use of Game Dynamics to Influence Behavior. http://jndglobal.com/wp-content/uploads/2011/05/gamification1011.pdf

Burton, Jon (2005). News-Game Journalism: History, Current Use and Possible Futures. Australian Journal of Emerging Technologies and Society 3 (2): 87–99.

Conill, Raul Ferrer, & Karlsson, Michael (2016): The Gamification of Journalism. In Harsha Gangadharbatla & Donna Z. Davis (Eds.), Advances in multimedia and interactive technologies (AMIT) book series. Emerging research and trends in gamification (pp. 356–383). Hershey, PA: Information Science Reference. doi:10.4018/978-1-4666-8651-9.ch015

Csikszentmihalyi, Mihaly (1990): Flow: The Psychology of Optimal Experience. New York: HarperPerennial.

D'Agostino, John Osborn (2016): Game Directory. http://johnodagostino.io/what-i-do/games/newsgames-serious-games-directory/

Deterding, Sebastian (2010): Social Games Studies: A Workshop report. With contributions by Staffan Björk, Stephan Dreyer, Aaki Järvinen, Ben Kirman, JJulian Kücklich, Janne Paavilainen, Valentiona Rao & Jan-Hinrik Schmidt. Hamburg: Hans Bredow Institute for Media Research. http://socialgamestudies.org/report.

Deterding, Sebastian, Sicart, Miguel, Nacke, Lennart, O'Hara, Kenton, & Dixon, Dan (2011):

Gamification: Using Game Design

Elements in Non-Gaming Contexts. CHI EA '11 CHI '11 Extended Abstracts on Human Factors in Computing Systems, 2425-2428. Doi: 10.1145/1979742.1979575.

Djaouti, Damien, Alvarez, Julian, Jessel, Jean-Pierre (2011); Classifying Serious Games: the G/P/S model. In Felicia, P. (Hrsg), Handbook of Research on Improving Learning and Motivation through Educational Games: Multidisciplinary Approaches, IGI Global (118-136).

Djaouti, Damien, Alvarez, Julian, Jessel, Jean.-Pierre, Methel, Gilles, & Molinier, Pierre (2008): A Gameplay Definition through Videogame Classification. International Journal of Computer Game Technology, 2008(1).

Foxman, Maxwell (2015): Play the News: Fun and Games in Digital Journalism. Tow/Knight

Report. New York: Columbia Journalism School. http://towcenter.org/wp-content/uploads/2015/02/PlayTheNews_Foxman_TowCenter.pdf.

Fu, Ya Chiang (2011): The Game of Life: Designing a Gamification System to Increase Current Volunteer Participation and Retention in Volunteer-based Nonprofit Organizations. Undergraduate Student Research Awards. Paper 2. http://digitalcommons.trinity.edu/infolit_usra/2

George-Palilonis, Jennifer, & Spillman, Mary (2013): Storytelling with Interactive Graphics: An Analysis of Editors' Attitudes and Practices. Visual Communication Quarterly, 20 (1), 20–27.

Godulla, Alexander, & Wolf, Cornelia (2017): Digitale Langformen im Journalismus und Corporate Publishing. Scrollytelling – Webdokumentationen – Multimediastorys. Wiesbaden: VS Verlag für Sozialwissenschaften.

Laamarti, Fedwa, Eid, Mohamad, & El Saddik, Aabdulmotaleb (2014): An Overview of Serious Games. International Journal of Computer Games Technology, 1-15. Doi: http://dx.doi.org/10.1155/2014/358152

Meier, Klaus (2017): Journalismus zum Spielen: Newsgames als neues digitales Genre.

Theoretische Verortung und explorative Nutzungsstudie. In Hooffacker, Gabriele, & Wolf, Cornelia (Hrsg.), Technische Innovationen – Medieninnovationen? Herausforderungen für Kommunikatoren, Konzepte und Nutzerforschung (47-61). Wiesbaden: Springer VS.

Murray, Janet H. (1997): Hamlet on the Holodeck: The future of narrative in cyberspace. Cambridge, MA: MIT Press.

Neitzel, Britta (2013): Point of View und Point of Action – Eine Perspektive auf die Perspektive in Computerspielen. Repositorium Medienkulturforschung 4/2013.

http://repositorium.medienkulturforschung.de/rmkfwordpress/wp-content/uploads/2013/12/2013_12_09_RMKF_4_Neitzel.pdf

Newman, Nic, Fletcher, Richard, Kalogeropoulos, Antonis, Levy, David A. L. & Nielsen, Rasmus Kleis (2017): Reuters Institute Digital News Report 2017. Oxford: Reuters Institute for the Study of Journalism.

Newman, Nic, Fletcher, Richard, Levy, David A. L. & Nielsen, Rasmus Kleis (2016): Reuters Institute Digital News Report 2016. Oxford: Reuters Institute for the Study of Journalism.

Newzoo Games (2016): 2016 Global Games Market Report: An Overviews of Trends & Insights. https://cdn2.hubspot.net/hubfs/700740/Reports/Newzoo_Free_2016_Global_Games_Market_Report.pdf.

Plewe, Christoph & Fürsich, Elfriede (2017): Are Newsgames Better Journalism? Journalism Studies. 1-18. DOI: 10.1080/1461670X.2017.1351884

Schrape, Niklas (2012): Die Rhetorik von Computerspielen. Frankfurt am Main: Campus.

Ruggiero, Dana (2015): The effect of a persuasive social impact game on affective learning and attitude. Computers in Human Behavior, 45, 213-221. http://dx.doi.org/10.1016/j.chb.2014.11.062

Stephens, Mitchell (2014): Beyond News. The Future of Journalism. New York: Columbia University Press.

Sturm, Simon (2013): Digitales Storytelling. Wiesbaden: Springer VS.

Treanor, Mike, & Mateas, Michael (2009): Newsgames: Procedural Rhetoric Meets Political Cartoons. Paper presented at DiGRA 2009 Conference: Breaking New Ground: Innovation in Games, Play, Practice and Theory, West London, UK, September 1–4. http://www.digra.org/wp-content/uploads/digital-library/09300.09505.pdf

van Eimeren, Birgit & Koch, Wolfgang (2016): Nachrichtenkonsum im Netz steigt an – auch klassische Medien profitieren. Ergebnisse der ARD/ZDF-Onlinestudie 2015. Media Perspektiven, 5, 277-285.

Vobič, Igor, Dvoršak, Lea, & Vtič, Mojca (2014): Digital Games and Journalism: A Case-study of Slovenian Political Weekly`s Newsgame – Mladina's Fojba 2000. Teorija in Prakska, 51(1), 123–142.

Wolf, Cornelia (2014). Mobiler Journalismus: Angebote, Produktionsroutinen und redaktionelle Strategien deutscher Print- und Rundfunkredaktionen (Aktuell. Studien zum Journalismus, Bd. 8). Baden-Baden: Nomos.

Wolf, Cornelia, & Schnauber, Anna (2015): News consumption in the mobile era: The role of

mobile devices and traditional journalism's content within the user's information repertoire. Digital Journalism, 3(5), 759–776. Doi:10.1080/21670811.2014.942497

Zehle, Soenke (2012): Play the News: Serious Games between Casual Play and the Work of Reportage. In Jörg von Brincken, & Horst Konietzny (Hrsg.), Emotional Gaming: Gefühlsdimensionen des Computerspielens (137–151). München: Epodium.

Translation: Sophie Costella