SERIOUS GAMES AS A TOOL OF NEW JOURNALISM: AMONG IDEOLOGY, INFORMATION AND ENTERTAINMENT

Alfonso Cuadrado Alvarado

Facultad de Ciencias de la Comunicación. Universidad Rey Juan Carlos.
Fuenlabrada /España
alfonso.cuadrado@urjc.es

Abstract

The development of internet has brought about a dual necessity for the printed press: that of looking for a new reader and a new format, which, beginning with the lengthy experience of the printed media, includes all the innovations of digital media, and this, along with both a new reader and a new format, creates the journalism of the 21st century. Respect towards the reader is obvious, as the youth which have begun to be known as digital natives, (generations born with internet) are distancing themselves more and more from printed paper for their entertainment and information by means of the new technologies.

One of the tools recently incorporated by some newspapers in their online versions is that known as "serious games", and more concretely those centred on information are known as "news games". In news games, the reader finds a virtual world where his actions reveal the information which he traditionally would read in a printed newspaper. This is an activity to which the digital natives are becoming habituated. Could news games become one of the elements of the 21st century newspaper?

In this paper we intend to make a pilot project which is being developed by a group of investigators from the Universidad Rey Juan Carlos in Madrid, known, by taking various serious and news games as objects of study through which an answer to the question, above, is sought.

The investigation explores and proposes a method of transfer of the informative content of videogames. To do this, we start from the triad: ideology, information and entertainment as the guidelines to follow for a possible protocol of adaptation of traditionally journalistic genre, such as reporting and editorials.

In the basic structure of a game, we rely on the fundamental element which is "gameplay": game, as the rules framework, and, play, as possibilities of user actions. The game determines the world to be represented. It is a framework which establishes and structures a system of main characters, actions, conflicts, rules and possible results; which, by certain means is similar to the content of a journalistic theme. In this manner, the "gameplay" of a game is its ideology, the representation of the world which it brings about. The conversion of a plot in system is a fundamental step in making a report a possible game framework.

More important than "gameplay", is the totality of information which the game transmits, and is determined by the theme on which the game is built around, and, which establishes everything from visual style to the type of personage the user will be in the virtual world.

Finally, to ideology and information, entertainment is added. This is a term which seems to be at odds with information, but can by no means be lacking in any game, and, which obliges that the design of the game is such that, as well as fulfilling its informative function, is also attractive.

The conclusions to which this work has brought us, establish the guidelines not only for the design of the game as possible ways of exploration for new journalism, but also, for its relationship with the digital media. Also, the investigation lays another factor which until now has not been mentioned on the table, which is that of the necessity of incorporating new professionals who not only possess the traditional knowledge of a journalist, but also, have the capacities of the new narrators of the digital media, into the writing-rooms of newspapers.

Keywords - Videogames, serious games, journalism online.

1 TOWARDS A NEW MODEL OF ONLINE INFORMATION

A degree of uncertainty exists with respect to Internet and its relation with traditional press. Publishers are conscious of the fact that the growth of digital means reduces the number of readers of written press, and therefore, they are slowly doing away with their old business model for another which they intuitively feel that internet will be the future of the news media. This situation provokes some tension which has become evident in the present state of online newspapers. On the one hand, there is a tendency to transfer the experience of traditional reading to the new medium, maintaining the design, the structure, the sections, etc; as if the digital revolution was simply limited to being a translator of the old to the new formats without adding anything else to it. On the other hand, there is the perception that something has changed in the habitual process of reading the press, and that what is digital provokes changes not only in the reader, but also in the type of information. This has brought about the timid trying out of new presentation possibilities of the online newspaper: by including audio and video files, infographic animation, etc.

In the area of digital press, several evident forms of change have been produced: a new medium is now available which has evolved and matured in its possibilities of presentation of types of information, as well as in its access (advance and diffusion of high velocity connections for the home user), it is shown that a new type of reader exists, or better said, a new type of information user who, through his base experience as reader and traditional audiovisual spectator, is becoming trained in the uses of the services of the net, as well as in all types of interactive technologies (video games, cell phones, etc.). But, to this logical chain (new platform, new type of reader), a third link is needed to be able to achieve a complete change, a new model of information. It is there, in this state of uncertainty, or impasse where the traditional media, informative companies, and professional journalists find themselves involved. Will they be capable of doing away with a centuries-old model and reinvent a future which will permit them to survive? What will this new digital era informative model consist of?

This is the debate which frequently can be found in academic circles, and from which a multitude of analyses about the state of the sector, as well as how the investigations with new proposals regarding the digital newspaper arise. Born out of all this, is the work which is being developed by the Grupo de Investigacíon Intermedia de la Universidad Rey Juan Carlos of Madrid and which has as its objective to explore the possibilities of adaptation of the current affairs contents to the interactive media. To be more specific, the investigation being carried out during 2009, named GAMEPRESS which is elaborated upon a current affairs news video game model, is centred on a genre known as serious games, or, video games which do not have a commercial use, and which are used as tools for education and simulation.

At present, it is the youth who make best use of the new technologies, as they were born along with them at the same time, and these technologies form part of their daily lives, in education, communication, and in both work and leisure time. They are, and will be, the readers of the new digital information. For this reason, a new line of work which could give answers to the questions about this new press format, is that which could use the interactive media par excellence; the video games, as a new medium which uses the full potential that digital technology can offer, not only to serve as a simple reading platform, but also, that which converts the information into a new interactive experience.

1.1 From graphics to animation

The first step towards interactivity was to convert the traditional informative graphics into animated ones. Including photographs and graphics in the press has been commonplace for over one hundred years, but the growing predominance of a society given to visual communication has made that the importance of text is sometimes diminished by graphic information. In 1982, the newspaper, USA Today became known for its outstanding use of infographics (graphic information). Infograhics is a hybrid of comics, text, and graphics. It permits the presentation of not only data or a typical spatial representation of a map, but also, it shows the development of a fact in visual form. To do this, it needs the sequential formats of both a comic and that of text.

To a certain degree, the designer should be a drawing artist having more vocation of a reporter than that of an artist. Its acceptance by a public which increasingly prefers newspapers with more visual content and less text was immediate. Infographics provides a spatial, sequential and narrative context which many times is unable to be conveyed with sufficient clarity through the combination of text and photography. There are even times in which the news obtains greater weight by minimizing the role of text and photographs through infograhics (figure….)

A great presence was acquired in newspapers in Spain thanks to the first Gulf War (1991), and years later it jumped to the net with the boom of online press.

The possibility of the multimedia convergence which has occurred on the net has enriched online infographics by introducing not only other media such as video and audio, but also, what is more important is that of interactivity. The possibilities of giving the media user the capacity of intervening, enriches infographics through its sequential potential, and opens the road to connecting the news by means of hyperlinks to other media information.

Through this means there are many national and international online newspapers which have created specific sections (multimedia) which include the pieces designed to complement specific news articles, therefore, creating a veritable visual newspaper library. Online infographics opens a new road of synthesis where the text, the animation, video and audio are taken as ingredients of a melting pot which could be qualified as a necessary ingredient in the new online journalism. The Facultad de Comunicación de la Universidad de Navarra, along with the Capitulo Español de la Society for News Design, annually convokes the "Malofiej", International Infographic Awards, which are considered as being the Pulitzers of its genre, and which for many years have been dominated by Spanish infographics. However, there has been a a noticeable decline not only in our media, but also in foreign infographic media which has caused a slowdown in the investigation of new technologies at the service of journalism. Why? In our opinion, this decline or stoppage of the interactive journalistic media is due to the lack of clear answers facing the evolution of a global course in digital media and which can be denominated as the jump from the 1.0 generation to the 2.0 generation as a follow-up to the best known denomination with respect to both types of web. Web 2.0 is a global philosophy which goes beyond a specific tool or of a use on the net: an open technology which is constantly modified and perfected, but which does not oblige the user to make economic payouts. It is a grouping of tools which permits both personalisation and contribution on the part of the user, and a model of collaborative space where these user contributions are converted into added value, which differentiates it from other media.

The Web 2.0 spirit is not only something which we could circumscribe to the internet. It could be said that behind it is a general sense of the participation of a new model of knowledge and symbolic social space through digital means, which are manifested also in the use of technologies such as the cell phone or video games. And, all those tools which offer less of this will be seen as being unattractive and old-fashioned, belonging to that old Web 1.0 generation where simple surfing the net and the jumping of a hypertext were considered a novelty.

Infographics looks for the incorporation of the Web 2.0 spirit and thereby demonstrating the vigour and strength of The New York Times in the latest Malofiej Awards thanks to pieces which go beyond conventional infographics and look for the personalisation of the results of the information, given that their foundations are the data bases (the concept which the major part of the Web 2.0 tools share), which makes a truly interactive job by the user, possible. This idea is what has been called second generation infographics. The first is based on the paradigm of contemplative animation which the user activated in the same manner as turning a page of a book. The second is based on the paradigm of a data base where the user personalises, according to the information which the visualisation wants to obtain. And the third? It is yet to come, perhaps it will be the jump to a video game, but then, infographics will cease to exist as such, as the video game is more than highly interactive infographics.

1.2   From animated graphics to a world to be explored: the video game

The qualitative jump between infographics and its hyper textual base to the video game is a step which is similar to that between reading and participating. A video game is more than an audiovisual narration having interactive fragments, it is basically a simulation to be explored.

The elements of a game are:

System. A group of interrelated and interdependent elements which for a complex unity. The system not only refers to a dynamics in function, but also to that which in reality has a model of representation.

Player. A game is an activity in which one or various participants intervene, acting in reciprocation with the system of the game in order to live the experience that it provides.

Game space. The activity of the game is carried out within a special temporary framework which is clearly delimited to reality. Although the games take place in the real world, they construct a fictitious space and time outside the margins of reality. The games' artificialness refers to its character of simulation, of the possibility to experiment with a type of activity which in real life could cause danger or harm. In other words, a game permits us to act as such; a pretence in a secure surrounding.

Conflict. All games incorporate a fighting of powers, a competition. This may take on various forms, from fighting against the rules and the challenges which the game provides, to the competition with a virtual incarnation of an opponent, or with various real opponents.

Rules. Rules are a fundamental part of the game. They provide the structure of the action, marking the objectives and what the player may and may not do.

The player in a video game performs what is known by experts and fans as gameplay, the experience which the player carries out in a given situation and under as series of rules (game), and which are carried out with a margin of freedom and decision with tools (arms, logic, puzzles, etc.) to be able to attain objectives; this is the "play".

If we were able to transfer an informative scope to a game space, identifying the underlying conflicts in a system of powers, and permitting the player to acquire a role as a main character in current affairs, could we then convert the experience of information into gameplay?   This is the task within which serious games are structured.

From the area of edutainment (educational entertainment), the game has always been worked on as one more tool in the pedagogical field, but the video game has never really come to be considered as a sufficiently mature genre in its language and its possibilities, in order to be able to be separated from its recreational functions and the imaginary fantasies with which its development and commercial presence has been associated.

However, this appreciation has been changing in conjunction with other factors, the first being of a technological nature, given that the advance of such tools as Flash, for the execution of online games, has permitted that studies with a reduced team of developers are able to carry out independent projects outside the framework of commercial industry and give results of a very high quality. And the other, is the proliferation of projects which contemplate video games from a perspective which is different from the habitual. One of them is, without a doubt the Serious Game Initiative created by The Woodrow Wilson Center for International Scholars of Washington, which has promoted the increase since 2002 of a surge of video games within the industrial sector with sufficient constancy, homogeneity, and differentiation in order to be considered as a new genre within interactive leisure. Workshops, conferences, articles on the net, etc, have contributed to incrementing not only interest, but also a specialised production of various studies in Serious Games. From a Serious Game initiative, groups have cropped up such as Games for Chance, which has as its goal making people more conscious of social change through the representation of social problems by means of video games or Games for Health, which it uses as an instrument for medical assistance.

But, what exactly is Serious Games? And, how can it be differentiated from a commercial game? Ben Sawyer of Digitalmill Inc. and Peter Smith of the University of Florida have considered the characteristics, differences and limits of the Serious Games, and have established a definition and a taxonomy through a joint work.

Serious games are those video games which do not have entertainment as its sole final objective. This is an essential point which differentiates them from the rest of the commercial market. If we turn the final objective of serious games definition around, we find types and varieties having the following classifications:

Games for entertainment (training games): those which have as an end, the training of a player in a task which he will carry out in real life.

Educational games: those games which have as an end , the transmission of specific knowledge or training.

Advergames or publicity games: those whose end is to convey a message or make a commercial product known.

Simulations: games whose end is to experiment over a determined scenario, be it a social simulation, a natural process, an economic relations scheme, etc.

News games or journalist games: those whose end is to inform and/or reflect upon a real event of major or minor relevance.

Frequently, some serious games cross the frontier of typologies and take on the various characteristics of the same; therefore, other possible types of serious games may be spoken about, such as Edumarket games. These are games which combine the information about a determined product specific to the advergames, and at the same time teach what the frame where this product is inscribed is about. In the same manner, Persuasive games are spoken about as those educational games which look for something more than the transmission of content, criticism, reflection, and conscience regarding a determined fact.

In serious games, a collection of factors and lines of investigation about the grid work of techniques, languages and technologies of conventional games which makes them, at the same time, very complex and attractive as products of the new society of digital technologies. Commercial games move on an axis which goes from the entertainment industry with work schemes and traditional production, to the public consumer; having technological advances and fiction as active principles. This axis is crossed with the new collaborative philosophy of the web 2.0 itself, and of the cognitive theories of learning, of the areas of entertainment and e-learning, and of academic investigation, as well as the critical thinking of alternative groups. This is why serious games are one of the terrains with a greater possibility of development with technological innovation at the service of the new society of information.

The idea of using games as a reflection of current events has given rise to various videogames which are dedicated exclusively to what today we could call a new journalism and games of great relevance in the media. Here we will deal with a few of them:

9/11 Survivor. One of the first and best known. It deals with a game which starts from a modification of a commercial one which exists today (Unreal Tournament) brought out two years after the terrorist attack on the Twin Towers. The player moves around the flaming World Trade Center, fearing to be burnt to death, and where the only other option is jumping from the building. The intention of 9/11 Survivor was to place the player in the skin of one of those people trapped in the tower, in such a way that he would experience the horror from a direct and much more primary position than that which was seen to be devaluated following the constant repetition of the images of the tragedy on television.

September 12. The study of the Uruguayan theorist and critic, Gonzalo Frasca (Newsgaming) realized a small flash game which makes us think about the effects of the American Crusade in Iraqi lands. Under the premise that violence generates more violence, he considers the objective of killing terrorists by means of missiles. For as much as we try not to, we always end up killing civilians who, in the midst of their crying in the face of destruction, become new terrorists. In the end, a small Iraqi town is a swarm of terrorists whose annihilation is impossible.

JFK Reloaded. Places us in the skin of John F. Kennedy's assassin, and lets us practice our gunmanship as a sniper alongside his killer.

Waco Resurrection. Where we assume the role of leader of the sect of the Davidians, David Koresh at the moment in which the confrontation with the Federal Agents took place in 1993, and which resulted in the deaths of four agents and 5 Davidians. These numbers increased later to more than 70 after 51 days of being surrounded, and when a fire believed to have been caused by Koresh himself, wiped out the entire community.

These and other games are halfway between the recreating of events and the interactive documentary, but being games as they are, they have pursued transmitting which some of their players have explained more than that of reflecting the facts objectively and aseptically. It is there, where a real specificity of the media is with respect to the traditional infographics. The game is more emotional in the sense that it makes us participate in an action reveals experiences and facts, and which transports us to an emotive and intellectual evaluation at the same time. It is because of this that the route of the serious games is not so much the translation of data and the facts to an interactive exploratory model, but rather, that of living the experiences of the events with a clear personal tendency with ones' own opinion. This is why the work of a serious game immersed in the journalistic area should combine, if not in one sole person, then in various, the labours of a journalist, an editorialist, and an interactive designer.

1.3   The adaptation of an informative genre to the videogame

Above, we mentioned that the group of rules upon which a game is based is what is denominated as the game and the actions of the user receive the name of "play". The evolution of the present video games carries us more and more to open worlds where the freedom of the user is first and foremost. Videogames such as GTA San Andreas, turns out to be attractive for the player because it has known how to combine the two demands which at first seemed to be antagonistic: the lineal format of a story which by means of levels and the game activity leads to a determined result, the characteristic end of a traditional narration such as that of the cinema or of a novel; and on the other hand, the freedom which the construction of a great new world gives, generally, a city with the possibility of exploring and carrying out all types of actions, (drive cars, fight with people in the streets, etc.), finally, the option which is more than participating in a story, is that of living an alternative experience which only virtual reality can give.

Information as a narrative discourse needs a determined logic in its process in order to arrive at an end, to a determined sense. This demand seems to be contrary to the possibilities of the freedom which a user demands of the interactive media, more and more each day. If a player wants to be free in a virtual world, his actions, and also the experience which he would have in this virtual world could be different each time he plays and of course, also different for each player.

Being as it is, how could we create a virtual world which reflects a specific problem, conflicts, a type of actions, and finally, an experience which would necessarily take us to specific significations which are interesting as the final goals of informative activities.

The contradiction between freedom of action and sense, is not such if we go into the structures of videogames in more depth. The balance between freedom and action is determined by the rules which are much more restrictive than they seem. The story is not always as closed as could be thought in the beginning, nor, could we do all we want in the world to be explored. The rules are the framework which place limits on the players' freedom. Paying attention to what the rules tell us, we will see what we do and do not have to do, and what types of actions which are given more potential to obtain the correct results within the framework of the game. In a few words, we are told in a specific manner what we have to do in a situation, what is positive and what is negative, and this is the sense of the game, or said in another manner, it is its' ideology.

To be able to understand it better, we an see how the ideology of the game functions, which in a certain manner established great possibilities of freedom for the user and which, nowadays, holds the title for being the most sold videogame in the world: The Sims. In 2000, the Maxis Company brought out the first version of the Sims which was publicized as the continuation of their previous SimCity sales success; the city simulator. The Sims, from the beginning, permitted something more than building a house; family members could also be designed, creating the characters and bringing them to life. The first human life simulator as the Sims; had all the ingredients for failure back then, as it was not based on a successful film, it did not offer hyper-realistic nor attractive graphics, it did not contain violent action, nor a story, nor a possible ending. Then, why, after a great number of expansions, improved versions which amplify the possibilities of human simulation as well as the adaptation to all the platforms, has it become the bestselling game, with more than 100,000,000 copies sold?

Among many other factors, without a doubt, is the plasticity of the game. We understand plasticity as the possibility for the game to adapt to all players, so that each of them can realize his dream of the family he desires and guide it by means of human conflict. However, this freedom is not absolute; it is only apparent and has great limitations. This limit is the real and profound ideology of the game, where the narration which tells of the world is hidden.

Above and beyond the multiple configuration possibilities in the formal aspect and the character as well as their way of being of the different options for designing the family nucleus (individually traditional families, groups of friends, homosexual couples, etc.), and the construction and design of the house; the inescapable objective of all people is happiness. It is obviously a basic and generic goal of humanity, but happiness does not mean the same thing to everyone. For the artist who loves his work, perhaps this means locking himself up in his workshop, while for a mountain climber, it is the reaching of the highest peak of the Himalayas, and for a Masai shepherd in Kenya, it suffices that he is able to go barefoot and find water for his livestock. However, the happiness of the Sims can only be obtained through a certain manner, most specifically assuming the North American western suburban lifestyle model where it is necessary to work (a Sim could not be happy living under a tree with little food and no material goods), climbing the work ladder, buying goods and owning a big house. The differences that can be obtained designing personages, games and houses are superficial because they never affect the center of the game which is the framework of the rules. It is there in the Sims, where its ideology can be found, the model of the world it represents through its simulation of life; but not of life in the broadest sense, but rather, that of the lifestyle of the Western Hemisphere. It is here where we should change the goal and task of a reader, as well as the behaviour of the traditional informative text as a goal, the task of the user and the behaviour of a simulation for, although apparently different find the points they have in common.

The player of a game of simulation is seen to be impelled to interactive tasks which more than seek out their own leitmotif of a traditional narration for that which could happen or why it happens, considering an experimental occurrence which is part of the simulation itself, "what would happen if"? The player introduces a goal in the dynamics which permits him to discover how the system behaves in the face of a specific situation. In the Sims, we consider, in a manner which is more or less rigorous, a goal based on specific conditions of the elements, for example; arrange that the two apparently incompatible personages due to character and personalities live together in a fortunate and happy manner, and are even able to develop a high degree of friendship. From this standpoint, the game is converted into a veritable social experimental laboratory and it permits us to extract certain conclusions when we consider our experience to be terminated: Was it possible to have them live together? What strategies were carried out in order to achieve it? What were the most adequate and which were incorrect?

The transfer of the content of a report or news event to an interactive environment should start by following the structural analysis of the videogame that we have carried out through the example of the Sims of the constructing of a system has all the elements of the information. The adaptation is based on making the text a world, and not making it such that the text is simply converted into being interactive. This system/world can be explored by the user and through diverse means of actions, is able to interact in order to obtain various results, but all of them being within a conjunction of significations delimited by the rules in such a way that two players can never, no matter how free the type of actions the games permit, they arrive at totally opposite results. The game is always the same no matter how diversely it is played.

Conclusion

The GAMEPRESS Project, the elaboration of a present day informative videogame, was born in the context of collaboration by the Universidad Rey Juan Carlos de Madrid and the Communidad de Madrid, along with the IV Plan Regional de Investigacion Cientifica e Innovacion Tecnologica for the consolidation of the investigation groups of the Madrid Universities. Elaborated by the Grupo Intermedia de la Facultad de Ciencias de la Comunicacion, which is made up of specialist members in diverse areas: Audiovisual narration, interactive communication, digital design and journalism. The work plan is articulated in three large phases:

1. A theoretic investigation about the serious games and more concretely about those which place in the scenario social problems and great informative themes.

2. A phase of the elaboration of prototypes of ideal videogames for the online informative media, and of the mobile apparatus (cell phones, mp3 players, and the like, and portable video consoles).

3. A third evaluation by means of a test by a group of youths regarding the results of the project.

At present, the first phase of the results which are the fruition of this communiqué is being undertaken. A theoretic investigation permits us to arrive at the following conclusions:

The online newspaper finds itself in a phase of reform which leads to the necessary disappearance of the printed model.

Opinion is the area of traditional press which has adapted to a lesser degree to the characteristics of internet. In the online version, it limits itself to strictly producing exactly what is published in the printed paper version.

The digital newspaper is the only means of communication which possesses the best characteristics based on technologies.

The digital newspaper looks nothing at all like a printed newspaper, but does not yet possess its own differentiated entity, and, therefore its own name which separates it from the printed version: Online newspaper, electronic newspaper, digital newspaper, multimedia newspaper, cybernetic newspaper, cybernewspaper.

The digital media public demands uses of the 2.0 Web philosophy, which presently scarcely implements the online press.

The participative nature of the videogame, combined with the emotion of the action, predisposes that the games translate a type of content which the opinion section traditionally has carried, where the vision of current events gives rise to a more personal evaluation than other areas which are more proximate to objectivity.

The new media is going to demand that the writing rooms of the newspapers will open their doors to other professionals who until now have had nothing to do with the informative world (interactive graphic designers, videogame scriptwriters, etc.) and which perhaps will enlighten a new model of informative professional who with the passing of time will; synthesise abilities and resources which until now have been outside the tasks of the journalist.

References

Aede (2008). *Libro Blanco de la prensa 2008*. Madrid: AEDE.

Álvarez Marcos, J. (2005). El periódico bajo demanda. En: *Las tecnologías periodísticas: desde el ayer hasta el mañana.* [CD-ROM] GOMEZ Y MENDEZ, J. (ed.). Sevilla: Sociedad Española de Periodística. Cap: 4. p. 34-55.

Annetta, L. (2008). Serious Educational Games: From Theory to Practice. Boston: Sense Publishers.

Armentia Vizuete, J. (2005). Los diarios digitales siguen buscando su propia identidad tras una década de existencia. *Estudios sobre el Mensaje Periodístico* [en línea]. Disponible en:http://www.ucm.es/info/emp/Portad_0.htm [Consulta: 4 de abril de 2006].

Barnhurst, K. (1994) *Seeing the Newspaper.* Nueva York: St. Martin's Press.

Cairo, A. (2005). *Sailing to the future 1.0. Infographics in the internet era*. *Miltumed*. University of North Carolina at Chapel Hill.

Canavilhas, J. (2007). *Webnoticia. Propuesta de Modelo Periodístico para la WWW*. Covilhã: Livros Labcom.

Carr, N (2008). Google making us stupid? The Atlantic. [en línea]. Disponible en: http://www.theatlantic.com/doc/200807/google [Consulta: 8 de enero de 2009].

Casasús Huríĺ, J. (2002) *Nuevos conceptos teóricos para la investigación en Periodismo Digital*. VII Congreso de la Sociedad Española de Periodística. Sevilla.

Deuze, M. (2001). Online journalism: Modelling the first generation of news media on the World Wide Web. *First Monday* [en línea]. Octubre de 2001, vol. 6, nº 10. Disponible en: http://www.firstmonday.org/issues/issue6_10/deuze/ [Consulta: 12 de marzo de 2008].

Diaz Gëll, C. (2008). Ante una futura armonización fiscal en la UE. En *Libro Blanco de la prensa 2008*. Madrid: AEDE.

Diaz Noci, J. & Salaverria, R. (coords.) (2003). *Manual de Redacción Ciberperiodística*. Barcelona: Ariel.

Edo, C. (2002). *Del papel a la pantalla. La prensa en Inernet*. Sevilla: Comunicación Social.

Frasca, G. (1997). *El videojuego como medio para una ficción interactiva: notas para una poética del joystick* . Tesis Doctoral. Montevideo: Universidad Católica del Uruguay.

Leturia, E. (1998) ¿Qué es infografía? [en línea]. *Revista Latina de Comunicación Social.* La Laguna (Tenerife), nº 4. Disponible en: http://www.ull.es/publicaciones/latina/biblio/libroinfo/r4el.htm. [Consulta: 5 de febrero de 2009].

Malofiej (2004). 11 *Premios Internacionales de Infografia. Society for news design, Capítulo Español*. Barcelona: Index Book.

Michael, D. (2005). *Serious Games: Games That Educate, Train, and Inform*.Boston: Course Technology PTR.

Salaverria, R. (1999) De la pirámide invertida al hipertexto. Hacia nuevos estándares de redacción para la prensa digital. *En Novática (Revista de la Asociación de Técnicos de Informática)*, vol. 142, noviembre-diciembre 1999, pp. 12-15.

Salen, K. & Zimmerman, E. (2004). *Rules of play. Game desing fundamentals*. Cambridge: The MIT Press.

Sawywer, B. & Smith, P. (2008). *Serious games taxonomy*. [en línea]. Disponible en: http://www.seriousgames.org/presentations/serious-games-taxonomy-2008_web.pdf. [Consulta: 2 de febrero de 2009].