

How to cite this article in bibliographies / References

J Ibanez Bueno, G Chabert, S Allain (2014): “Serious games: new media in a public institution?”
Revista Latina de Comunicación Social, pp. 104 to 124.
http://www.revistalatinacs.org/069/paper/1004_USF/07fen.html
DOI: [10.4185/RLCS-2014-1004en](https://doi.org/10.4185/RLCS-2014-1004en)

Serious games: new media in a public institution?

Jacques Ibanez Bueno [CV] [ORCID] [G] Université de Savoie, France /
jacques.ibanez-bueno@univ-savoie.fr

Ghislaine Chabert [CV] [ORCID] [G] Université de Savoie, France /
ghislaine.chabert@univ-savoie.fr

Sébastien Allain [CV] [ORCID] [G] Independant researcher, France / sebastien.ashm@gmail.com

Abstract

Introduction: A serious game is an application that combines ‘serious’ goals (pedagogical, informational, communicational, ideological, or training) with ‘ludic’ aims stemming from video games for example. Digital images and games associated in serious games become devices making sense in the context of organization communication. **Objectives:** The field of serious games enables researchers to understand communication practices in organizations and in particular the bodily features and rituals that occur in the course of the games. **Methods:** The empirical research presented in this paper addresses the scientific issue of games appropriation and its effects on organization. The study is based on a serious game that was designed in order to train managers for evaluation interviews. It was put into practice with five health managers at a Hospital in Annecy (Rhône-Alpes - France). **Conclusions:** The serious game was not ‘immersive’ enough. The managers could transpose and transfer for use in their real life interview situation.

Keywords

Serious game, internal communication, avatar, visual methods, hospital.

Contents

1. Introduction. 2. Interdisciplinary approaches. 3. Results and discussion. 3.1. What about uses? 3.2.

Participants' expectations.4. Conclusion. 5. Notes. 6. References

Original writing by the authors. Correction by **Rowland Martin** (planet-languages.com)

1. Introduction

Combining games with business can sound surprising at first. Is it possible to make professional practices more fun and pleasant when the main objective of business is typically to increase financial results? Business games are not new in the field of business training but their development under the form of video games is of interest to sociologists and anthropologists. Serious games have become a real market in their own right with actors, prospects, research & development and public support, such as the 2009 French ministerial subsidy on serious gaming. However, given the constitutive criteria of games, one can question the relevance of applying the concept of games to such applications. Indeed, to quote Caillois (1958), “edutainment is a free, separate, unknown, and fictitious activity”. Therefore, one may wonder if the business environment actually offers such conditions.

Several researchers have explored this emergent field (Alvarez, 2007). The state of the art in this area is represented by interactive games involving ‘telepresence’ (Weissberg, 1999), avatars, and virtual worlds set within realistic environments. This has drawn the attention of organizations (minimizing costs thanks to automated tasks, professional training, teleconference meetings, virtual assistant in services...) and also of society in general (simulated games designed for the general public like Sim City, Second Life...). Digital images and games associated in serious games represent devices that are beginning to make sense for communication in organizations. Scientific studies addressing communication modes and the appropriation of serious games' applications are still scarce in Communication and Information Sciences and in Human and Social Sciences.

Some communication reviews have only just started mentioning video games¹ [1] through scientific and empiric papers. Scientific literature is larger however on the topic of video games and online interactive games. The researches study specifically the relationships that exist with classical media languages (Natkin, 2004) such as cinema (Blanchet, 2008), science-fiction literature (Schmoll, 2005) or more original medias such as masks (Moatti, 2007) or puppets² [2] (Blanchet, 2005). Other studies address the concepts of ‘game play’ (Genvo, 2008; Genvo, 2009) or ‘immersion’ (Chabert & Bouillot, 2010), two concepts that facilitate good appropriation and perception of the games by gamers. Scholars also explore virtual games universes, such as ‘Second Life’ which is known to simulate Real Life practices. In particular they focus on notions of presence in these virtual worlds,

¹ Video games a cultural property? (Les jeux vidéos un « bien » culturel ?), *Médiamorphoses*, 22, 2008.

² The analogy between puppet and avatar is interesting as it reveals the continuity between the body of the user and the two ‘interfaces’.

on the relationships between virtual and real environments and relationships between players and their avatars. Most of these works adopt ethno-methodological and anthropological approaches to explore and understand these new worlds of communication (Boellstorff, 2008; Jensen 2009).

The type of serious game studied in this research concerned employees' annual evaluation interviews. Such interviews are mandatory in French labor law. All employees must have an interview with their supervisors/managers in order to review their professional carrier. The serious game studied here was created specifically to enable interviewers (managers) to simulate and train for these interviews.

This serious game allows people to simulate interactions (including verbal) during an interview session within a professional context. This highly ritualized task is a very important moment for the employees and their colleagues or managers. One of the main issues for organizations is internal communication but there are also many challenges as essential decisions can be taken based on the outcome of these interviews.

Salary raises, career path decisions, internal transfers or, in more critical cases, redundancy are topics that can be addressed and decided in the wake of the interviews. In this critical context, it can be difficult for managers and colleagues concerned with the interview to speak freely.

These interviews frequently generate stress, occasionally resulting in tears or violent reactions. Thus, due to its intensity and its formalized and ritual nature, this task represents an important and challenging part of the communicational process for organizations. We would like to introduce the research we have undertaken on this challenging issue.

We sought to explore the nature of communicational engagement and the involvement of professionals in the interface and the game design of a serious game. The level of immersion has been studied by taking into account the 'bodily engagement' (Martin Juchat, 2008) in this situation. In particular, the relationship between the users' avatars and their body was observed.

We then endeavoured to understand identification, resistance, idealization phenomena within organizations, and the effects of such behaviours on internal communication.



Figure 1: The game design of the studied serious game

In line with these aims, a collaborative research supported by the University of Savoie was carried out in 2009. The collaborative project involved a digital images laboratory, a leading company in the field of serious games, and the hospital of Annecy.

The different parties were brought together in order to address the use of a serious game designed to simulate an evaluation interview. The studied application placed managers/supervisors in a virtual office in which they could move and react by impersonating and ‘controlling’ an avatar. In the game, Avatars represented different virtual representations of the managers and also different representations of the employees. Many types of scenarios could be imagined in a context where humour, immersion of characters and their adventures in a realistic universe were made possible.

2. Interdisciplinary approaches

Complementary methods were combined that had already been experimented in previous researches on organization communication, for instance in researches on the uses of ‘telepresence’ and images in businesses (Chabert & Ibanez Bueno, 2008). Sociology of uses (De Certeau, 1980), visual (Pink, 2003) and hypermedia anthropology (Da Silva Ribeiro, Bairon, 2007) and phenomenology (Weissberg, 1999) were used and combined in order to understand the practices of the serious game

and to enhance a sense-making methodology. The research process was as follows:

After interviewing the hospital Human Resources manager, the training manager and the managing director, a meeting was arranged in order to demonstrate and discuss of the serious game that had been chosen together with the hospital health managers involved in the study (5 women, volunteers, who played at video games at home or not). During the experimental sessions, the serious game was installed on the managers' computers in their office.

The study was carried out between June and July 2009. This period was retained as it coincided with the period for the actual evaluation interviews. As part of the interdisciplinary approach and in particular of visual anthropology methods (Mac Dougall, 2006), the managers' practices during their use of serious games in their professional environment were filmed (not in an artificial or created environment). In keeping with the participant observation anthropological method, the researchers were present during the experiment, remaining unobtrusive, so as to observe and take note of different events. Four cameras were used to simultaneously record images of the game, images of the users in front of their screen (close and wide shots) and images of the office and environment. Figure 2 hereunder shows an example of the 4 recorded points of view: the serious game interface on the screen, the manager in front of the screen using the game, the office environment with the whole body visible (wide shot) and the face of the manager with the hands (close shot).

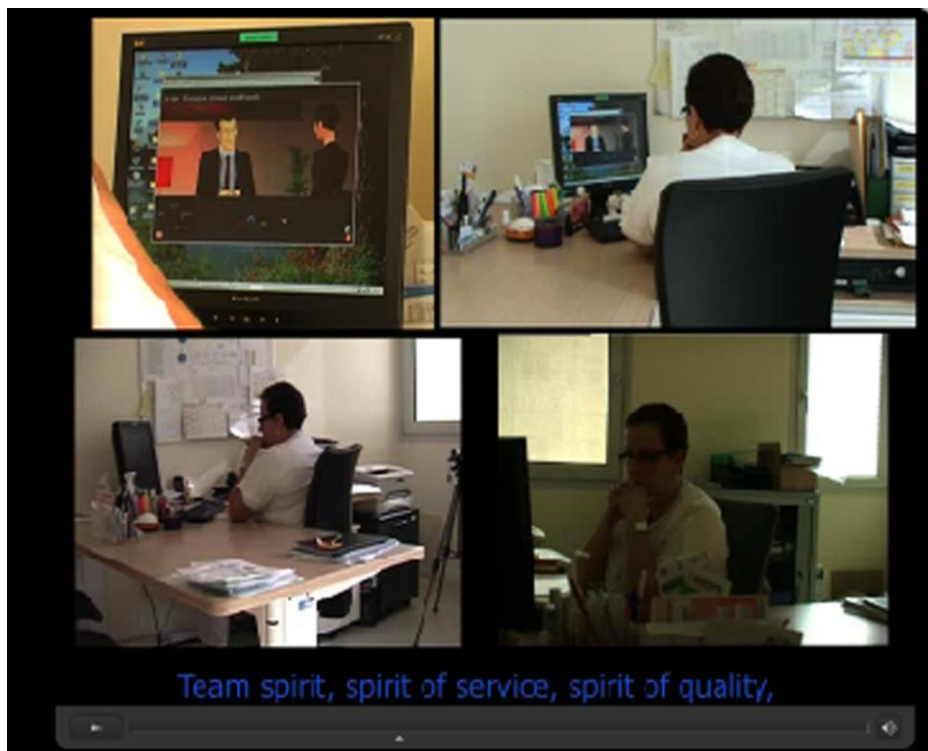


Figure 2: The experiment in images – 4 different shots

The experiment protocol then consisted of semi-directive interviews with each manager immediately after the filmed session in order to record their reactions, perceptions, and representations concerning the serious game. Indeed, it also seems noteworthy to highlight senses of practices for users.

One week after the experimental session, follow-up phone interviews were conducted with each of the participating managers so as to collect their comments after they had completed the actual evaluation interviews. In the same time, the videos and rushes were analysed in order to identify the most significant sequences, for instance those showing ‘increased’ activity in front of the serious game, sequences with laughter, or other emotional cues expressed by the body... The selected images were then edited and presented on screen as a mosaic (See Figure 2 ‘The experiment in images’), they are also available through a hypermedia research at the following web address: <http://www.seriousgame-uses.com>.

Using images as a research methodology (Warren 2008) enabled researchers to take into account the visible interactions expressed through body movements. This visual material made it possible to adopt a phenomenological approach (Merleau Ponty, 1964) in order to evidence body features during the use of a serious game. In this sense, the body can be seen as revealing the gaming experience (Roustan, 2003) in organizational activities. Moreover, a semiotic analysis was included so as to take into consideration the touch interaction with the screen and to focus particularly on a semiotics of avatars. Finally, a general debriefing session was held with the three institutional partners to enable the participants to see their behaviour and their images, and to give feedback. The main results were then discussed with all the parties concerned.

3. Results and discussion

3.1. What about uses?

Very few studies on games have adopted a complementary approach (Genvo, 2008: 100). The originality of the interdisciplinary methodology chosen here made it possible to collect a wide range of data and to obtain multiple results. This also made it possible to have a global perception of the communicational appropriation of serious games. The results showed that users clearly perceived the paradox inherent to serious games, a paradox that is expressed in the expression ‘serious game’ (oxymoron). They perceived the ‘serious’ aspect of the technology on the one hand and the more fun aspect of ‘gaming’ one on the other hand. Users’ practices pointed out this duality and complementary as each of the five participating health managers was asked to play two types of games:

- A game close to their actual interview practices in which users were tried to evaluate themselves by enacting their own behaviours;
- A game opposite to their actual practices in which they were instructed to adopt ‘bad behaviours’ in order to test reactions to such behaviours.

They reported that they found it fun to adopt an attitude opposite to their real life practices as part of

the serious game, and also regretted that they did not have enough time to play other games.

The serious game appeared to teach them certain ‘good attitudes’ that they could easily transpose and transfer for use in their real life interview situation. Some examples they mentioned included the ability to listen, the ability to answer and the structuring of interviews. Globally, the serious game was appreciated and viewed as a good method for training. Participants believed that it could be extended more largely throughout the hospital and proposed to other colleagues.

Certain resistances remained however. For instance, it was not all that easy for professional users to ‘play’ at work, even though they were enthusiastic to test the serious game and discover its advantages. It was not natural for them to have fun at work using these training devices. Some users reported that they would have felt more comfortable playing the serious game at home. This comment highlights a type of ‘shunting’ in the sense that De Certeau (1980) used the term.

3.2. Participants’ expectations

In terms of expectations, the health managers considered that the serious game was not ‘immersive’ enough. This was also observed in the semiotic analysis of the serious game. The proposed design and scenario did not give the impression of ‘being’ the avatar, of living through the avatar. It did not really provide the experience of a virtual game environment. The managers felt that they were spectators, watching their avatar taking actions and reacting, without really having the possibility of intervening. This is a major limitation of the ‘gameplay’ experience (Cailloux, 1958; Brougere, 2008) insofar as we assume that, although the player acts upon his/her avatar, in return the avatar also has an impact on the player.

As a result, the avatar was perceived more as a ‘virtual assistant’ (Schmoll, 2005) than as a ‘digital twin’ in the serious game. In other words it was a digital entity manipulated by a computer process. The semiotic analysis revealed that the interactive design and the different media (sound, music, voices, body movements, spaces, points of views...) did not enhance the feeling of immersion within an environment and within a virtual body, the ‘augmented sensory’, ‘the augmented place’ and the ability for gamers to identify with their avatars. In the more realistic game played the first time, the five women managers chose female avatars that had a resemblance with them, but in the second session of the game they chose different avatars that were opposite to their identities and appearance (men, older...).

During the different conditions, the users reported that they had an impression of being ‘detached from the game’ (‘nor outside neither inside, nor here neither elsewhere’). This last paradox suggests that users in their offices could experience, perceive, and feel a new space of interaction: the space of the screen. It also reveals that virtual media reinforce the sense of space.

On the other hand, they seemed attached to their avatars. For example they spoke of their characters (in particular for the avatar colleague called Franck) with a certain fondness. They always had a fun

and kind remark about him. It is noteworthy that the attachment and feelings, experimented virtually in this case, are clearly significant and determining in the professional environment, as they can improve relationships and well-being. The relationships between the players and their avatars were very close. The hospital environment seemed to influence the interpretation of avatars by hospital gamers as the representation and perception of the body are enhanced in this context. Indeed, relationships between nursing staff and patients are privileged in this environment.

This could explain why they would have preferred to have experienced greater ‘sensory and body’ impression (Jensen, 2009) with respect to the game and to the avatars they encountered in the course of the serious game. In addition, even though the appearance of the game design resembles a realistic and metaphoric place, the behaviours and emotions displayed in the course of the game were not ‘realistic’ enough for health managers. They reported that in real life they have to deal with more extreme situations such as tears, distress, pain, anger, seduction, violence, etc. that the serious game does not propose. Extreme situations should be included in the serious games scenarios in order to help hospital users understand and prepare for such situations.

The top management’s position was symptomatic of resistance to this phenomenon. Indeed, unlike the managers/supervisors who used the game, the Human Resources Manager found the serious game extreme enough. One possible explanation for this could be the desire to keep stress at work hidden and not visible. Political issues can also affect the acceptance and appropriation of digital devices. ‘The construction of a fun world can only make sense if it is connected to the social world around it, the social world that designs it (...). Users not only play a game in a given time and space, they also talk about the game’ (Schmoll, 2008: 69). Despite the fact that the social dimension presents a real interest for communication researchers, this ‘society effect’ (‘effet société’ Schmoll, 2008: 70) was limited in this study. Indeed, the health managers interested by the experience of learning through playing and gaming did not speak about the serious game at all, although they did mention it to their friends outside the workplace.

This experiment brought them together around a serious game culture and around skills in their organization and enabled them to transfer practices to their private spheres.

4. Conclusion

The first results presented in this paper show the necessity for further research on this subject, particularly as far as bodily behaviours are concerned. Based on the ‘spectator’ concept (Weissberg, 2003), it would be of interest for future work to analyse in greater detail the bodily engagement and characteristics (‘bodily coefficient’) in digital and hypermedia devices, although reception studies have shown that spectators do not remain passive during visual and audiovisual broadcasts (e.g. television; cinema). Bodily movements must be studied in connection with images.

The videos of health managers using the serious game do not include many movements. It is noteworthy that these participants were not playing a ‘real’ video game and that the bodily engagement cannot be compared with what is observed with adventure games or action games (Le

Diberder, 1998) where the sensory stimuli are more immersive. These ‘interfaced gestures’ (‘gestes interfacés’ Amato & Weissberg, 2003) in continuity with tactile interfaces are rather disappointing and the semiotic analysis of recorded videos is not really significant.

For these reasons a phenomenological approach would seem better suited to undertake such analyses. Thus, visual anthropologists and sociologists could adopt the principles of ‘immersion’ and circulation of bodies in interactive games and interfaces. Finally, participation of users in the research process (through semi-directive interviews and debriefing sessions) should enhance the reality of bodies interacting with avatars, in this interactive program dedicated to internal and bodily communication in business.

5. Notes

¹ Video games a cultural property? (Les jeux vidéos un « bien » culturel ?), *Médiamorphoses*, 22, 2008.

² The analogy between puppet and avatar is interesting as it reveals the continuity between the body of the user and the two ‘interfaces’.

6. References

J Alvarez, (2007): *Du jeu vidéo au serious game: Approches culturelle, pragmatique et formelle*, [From videogames to serious game: cultural, pragmatic and formal approaches] . Thèse de Doctorat en Sciences de l'Information et de la communication. [PhD in Information and Communication Sciences]. Toulouse3.

E.A Amato J.L Weissberg (2003): Le corps à l'épreuve de l'interactivité: interface, narrativité et gestualité. [Body in interactivity: interface, narrativity and body language]. *Interfaces, Anomalie digital_arts*, 3, 41-51.

A Blanchet (2005): L'avatar vidéoludique, nouvelle forme de marionnette numérique [the avatar, new form of digital puppet]. Paper presented at *The international symposium La vie des Marionnettes*, Paris X: Nanterre.

A Blanchet (2008): Cinéma et jeux vidéo : trente ans de liaisons. [Cinema and video game: thirty years of connections]. *Médiamorphoses*, 22, 33-38.

T Boellstorff (2008): *Coming of age in Second life, an anthropologist explores the virtuality Human*, Princeton University Press.

G Brougère (2008): Jeux vidéo et mise en scène du jeu, [Video game and directions of the game].

Médiamorphoses, 22, 85-90.

R Cailloix (2001): *Man, Play and games*, University of Illinois Press. (Original work published as *Les jeux et les hommes*. Paris: Gallimard, 1958).

G Chabert, J Ibanez Bueno (2008): Retour sur les images dans les démarches interdisciplinaires en SIC: le cas de réunions visiophoniques en entreprise industrielle, [the issue of visual as an interdisciplinary approach in communication sciences: the videoconferencing case in an industry] Paper presented in the International Congress of the French Information and Communication Society, June 2008, Technological University of Compiegne Press.

G Chabert, D Bouillot (2010): Du réel au virtuel: la place de l'oeuvre numérique dans un espace d'exposition, [From real to virtual: the place of the digital artwork in an exhibition space], *Culture et Musées*, 15, 117-135.

J da Silva Ribeiro, S Bairon (2007): *Antropologia Visual e Hipermedia*, Porto: Edições Afrontamento

M de Certeau (1984): *The practice of everyday life*, (S. Rendall Trans.), University of California Press, Berkeley. (Original work published as *L'invention du quotidien, tome 1: Arts de faire*, Paris: 10/18, 1980).

S Genvo (2008): Réflexions ludologiques. ['Ludologic' thoughts]. *Médiamorphoses*, 22, 95-101.

S Jensen (2009): Cyborgs and learnings bots in virtual worlds, Digital Media Technologies Revisited Conference ECREA / DG PuK, 19-21 nov, Berlin: University of the Arts.

A le Diberder, F le Diberder (1998): *L'univers des jeux vidéo*. [Video games universe] Paris: La Découverte.

D McDougall (2006): *The corporeal image: Film, Ethnography, and the Senses*, New Jersey: Princeton University Press.

F Martin Juchat (2008): *Le corps et les médias, La chair éprouvée par les médias et les espaces sociaux*, [Body and media: the body experienced in social spaces]. Bruxelles: De Boeck, Culture et Communication.

M Merleau-Ponty (1964): *L'oeil et l'esprit*. [Eye and Mind]. Paris: Gallimard.

M Moatti (2007): Nouveaux habits pour vieilles cérémonies. [New dresses for old rituals]. *Médiamorphoses*, 19, 93-99.

S Natkin (2004): *Jeux vidéo et médias du XXI^e siècle*. [Video games and media in the twenty-first

century]. Paris: Vuibert.

S Pink (2003) *Doing Visual Ethnography: images, media and representation in research*. London: Sage.

M Roustan (2003): *La pratique du jeu vidéo, réalité ou virtualité?* [Video game practice: reality or virtuality?] coll. Sciences Humaines et Sociales, Consommations & Sociétés.

P Schmoll (2005): L'interrogation du réel par le virtuel, [The issue of real by the virtual]. *Revue des Sciences Sociales*, 34, *Le rapport aux images*, 132-145.

P Shmoll (2008): Communautés de joueurs et mondes persistants, [Gamers' communities and permanent worlds] *Médiamorphoses*, 22, 69-75.

S Warren (2008): Empirical challenges in organizational aesthetics research: towards a sensual methodology, *Organization Studies*, vol 19, 4, 559-580.

JL Weissberg (1999): *Présences à distance-déplacement virtuel et réseaux numériques*, [At distance presence – virtual move and digital networks], Paris: L'harmattan, Coll Communication et civilisation.

How to cite this article in bibliographies / References

J Ibanez Bueno, G Chabert, S Allain (2014): “Serious games: new media in a public institution?”. *Revista Latina de Comunicación Social*, pp. 125 to 134.

http://www.revistalatinacs.org/069/paper/1004_USF/07fen.html

DOI: [10.4185/RLCS-2014-1004en](https://doi.org/10.4185/RLCS-2014-1004en)

Article received on 15 November 2013. Submitted to pre-review on 17 November. Sent to reviewers on 21 November. Accepted on 28 January 2014. Galley proofs made available to the authoress on 31 January 2014. Approved by authoress on:85 February 2014. Published on 8 February 2014.