

# Videogames, learning, and the social context: Approaches to an ethnographic case study

## Abstract

Focussing on the role-playing simulation game *SCAPE* (Sustainability, Community and Planning Education), this paper proposes that potential disparities between game design practice and the meaning-making process of the players need to be addressed in a wider ecology of learning. The cultural setting of the gameplay experience, and also the different levels of engagement of the players, can be seen to pose vital questions, which are in and of themselves objects of inquiry. This paper argues that ethnographic participant-observation, which is a recognized approach in game studies, allows taking the wider ecology of learning into account to explore the various relations that shape the gameplay.

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## Introduction

*SCAPE* (Sustainability, Community and Planning Education) is a simulation game about the principles of urban sustainability specifically developed for secondary schools. The game offers a learning experience for creating and imagining a future for an urban area. The players gain awareness of limited resources, different interests, and influences that all shape urban renewal (Polson, 2006). With this aim, *SCAPE* falls into a category commonly known as 'serious games', 'games for change', or games for 'meaningful play'. These games are designed with the explicit intention to educate, train, or inform the players.

Games can function as compelling and engaging learning environments (Shaffer, 2005, Gee, 2005). The potential of serious games for learning often lies in the contextualisation and situated meaning of the game. Certain professionals possess special knowledge and distinct values that are tied to specific skills by effort and experience, which Gee terms 'authentic professionalism' (Gee, 2005). Shaffer connects the concept of 'authentic professionalism' with epistemic frames, where practice, identity, interest, understanding, and epistemology are closely woven together (Shaffer, 2005). Consequently, different communities of practice (for instance, different professions) have very different epistemic frames. By participating in communities of practice, learners develop new ways of thinking, which can lead them to reframe their identities. Here, games and simulations are able to move beyond traditional teaching and learning pedagogies to provide new models of learning, to understand, experience, and create within the key concepts and underlying principles of a discipline. (Shaffer, 2005, Gee, 2005).

*SCAPE* focuses on the Kelvin Grove Urban Village (KGUV), an inner city area of Brisbane in Queensland, Australia. KGUV is an urban renewal project with the aim to redevelop this inner city area into a vibrant residential, educational and commercial community. Kelvin Grove Urban Village promotes community participation in regard to learning and cultural activities and as part of this strategy *SCAPE* was designed. For the past two years, *SCAPE* has been hosted for schools at KGUV.

The objectives that lead to the development of *SCAPE* were to deploy the principles of sustainability in coordination with the curriculum of school programs. As such it integrates education, principles of urban design and technology. It includes the concepts of urban sustainability and the process of sustainable decision-making, which are difficult to teach in a traditional

classroom setting. In that regard, *SCAPE* is designed to change the players' perception of a given environment and illustrate how people's lives and lifestyles are shaped and influenced by the sum of design and planning decisions. Students undergo the decision-making process in regard to the threshold development decisions in city planning on land use, density and transport. In an urban planning process these decisions involve a dynamic debate that is influenced by politics, economics, and interest groups, which in turn impact on the community and the environment. In the gameplay experience, students can actively be involved with, and influence this debate. The role-playing simulation itself helps in the process of learning, planning, applying, visualising and reflecting. Players take on a role and imagine and create a future vision of a given urban area. Players play in groups of six, where each one takes on a different community character, namely a local representative, a retailer, a planner, a property developer, a student, a senior and an environmental protector. Each character has a different agenda in the planning process and, while moving through a series of urban planning stages, the players have to negotiate the decision making process. These processes involve complex understandings of issues impacting on land use, size and shape of the village, housing choices and transport options. The simulation depicts their decisions instantly, and a 3D model of the designed city, along with statistical and textual feedback, visualizes the impact. Being physically in the environment of KGUV reinforces the game as a situated and contextualised learning experience. Therefore *SCAPE* promotes the earlier discussed notion of authentic professionalism, as players actively engage in the different identities and interests surrounding urban planning.

However, the crucial point in games and simulations is whether these sorts of desired learning or even transformative outcomes are facilitated. If we assume that a game is designed with a particular intention, how can we determine if the intentions were realized in the game experience? And how do we address potential disparities between game design practice and the meaning-making process of the players?

#### ***Disparity between Design Intention and the Meaning-Making Process***

Although not game-related, the following example helps to understand such a disparity between design intention and the meaning-making process of the intended audience. In 2006, the social marketing campaign 'Du bist Deutschland' ('You are Germany') was launched, initiated by several German media companies. As a marketing campaign, it resulted in a significant engagement of citizens while illustrating the difficulty of getting the intended message across. The aim was to transform the German perception of citizenship by promoting commitment and willingness to invest

in their home country – emotionally and through self-responsibility and engagement. It was felt that Germans as a population are dissatisfied with Germany, and that their negativity led to a lack of energy and engagement. Strongly reminiscent of J.F. Kennedy's famous quote 'Don't Ask What Your Country Can Do For You, Ask What You Can Do For It', the campaign featured a manifesto with 40 persons, some of them celebrities, others featuring 'ordinary' people, making poetic statements on TV, on cinema screens, in magazine advertisements, in daily newspapers, online and on billboards. According to the Goethe Institute (Sommer-Guist, 2006), the 'Du bist Deutschland' campaign was the biggest and most successful campaign of its sort, as measured by its familiarity and recognition across all sectors of the German population.

However, a significant countermovement took place. Private Weblogs covering cultural, political and social issues criticised the campaign by pointing out the parallels to fascist propaganda and received comments from readers. More importantly, the campaign created user-generated creative works. Reactions included parodies that criticised the campaign, such as videos on YouTube, or ads published on websites and distributed through emails, resembling a successful viral marketing strategy parallel to the official campaign. Therefore, even though a lot of people engaged with the social marketing campaign, this sort of engagement was unintended by the designers of the campaign.

Therefore, as the above example illustrates, a direct causal connection does not necessarily exist between design intention and the participants' meaning-making process. In fact, Gauntlett enthusiastically dismisses the so-called 'effect model', which tries to show a direct connection between a message and the effects on the recipients' behaviour. In his view, the effect model falsely presumes that the medium can present a singular and clear-cut message and that researchers of the effects model are in a position to identify what that message is (Gauntlett, 2006). Lavender agrees that 'no message, whether a television advertisement or a videogame, is going to affect every receiver the same way. And even if a measurable effect is achieved, it would be difficult to isolate from other influences' (Lavender, 2007, p. 5). The computer game 'Homeless: It's no game' was designed by Lavender with the intention that players will develop a better understanding of the problems faced by homeless people, as well as an increased empathy and curiosity as to why and how people become homeless (Lavender, 2007). Lavender tried to evaluate the effectiveness of the game's design by determining the intention of the game, such as the desired attitude, and then comparing this with the actual outcome. Voluntary participants in the study

filled out a preliminary survey about their attitude to homelessness and were then assigned to either a group playing the game, a group reading a short story about homelessness, or a control group. A week later, participants were asked to self-assess their knowledge of and interest in homelessness and a homeless empathy index was calculated. Participants were also required to rank possible reasons for homelessness. In regard to knowledge and interest, there were no significant differences between the gaming and reading group. In addition, there was no significant difference on the homelessness empathy index. The only difference occurred in the ranking survey. In the pre-test, most participants of all groups ranked mental illness as the most important factor for homelessness. In the post-test, the game group ranked alcoholism much higher than previously, while the factor mental illness dropped (Lavender, 2007). However, this outcome was unintentional<sup>1</sup> and might be related to the occurrence of alcohol in the game. Therefore, Lavender concludes that considering each game as an individual case, as well as taking the types of players and circumstances equally into account (Lavender, 2007) can give more valuable feedback about the disparity between design intention and the meaning-making process of the player.

### *Player Audience*

Research has argued that gameplay cannot be seen as separable from cultural processes. The meaning-making process, that is reflection and interpretation, is subject to the social settings and practices within which games are situated (Gee, 2008).

Thus, to explore the disparity between design intention and the meaning-making process it is essential to examine the diversity of the audience in social and cultural terms, to which engagement and motivation are closely connected.

For instance, Gee argues that people learn best when learning is part of a highly motivated engagement that involves the social practices that people value. These so-called 'affinity spaces' provide an informal framework where people affiliate with others based on shared interests, in order to build and share knowledge (Gee, 2003).

The following shows how meaning making processes form and take place in an affinity space. The example is taken from an Internet Discussion list<sup>2</sup> concerning social games, where the discussion evolved around the game 'September 12th. A Toy World' (Newsgaming.com, 2003). The contributors to the discussions are all involved to some extent in the design and critique of

<sup>1</sup> As clarified in e-mail correspondence with Terry Lavender

<sup>2</sup> <http://www.gamesforchange.org/info/Lists>. All contributions used with the permission of the authors.

serious games. This particular game engages with the issue of the United States' War on Terror. It aims to model the political paradox that the war on terror affects civilian populations to generate more terrorism. It aims to show that violence generates more violence. As the player tries to kill terrorists, he or she always kills civilians (collateral damage). Other civilians start mourning and turn themselves into terrorists.

The following discussion demonstrates how the contributors made meaning of the game and accepted or objected to how the design intention was realized. For instance, Heeter stated that 'When I 'played' it, I never fired. The only option was to shoot or not shoot, and I'm a pacifist. The message, to those who never shoot, isn't clear.' (Heeter, Nov. 9, 2007). In contrast, Kimball replied that 'that's because its intention wasn't to give a message for those who chose not to participate in the experience'. Kimball further argued that when launching a game the player enters a contract that includes the interaction and play with the mechanics it offers. Therefore, one cannot judge a game without having gone through the intended experience and allow the game to communicate the message it intended to express. (Kimball, Nov. 9, 2007).

The discussion further shows that the contributors were not only interested in how they personally perceived the game and its intention, but wondered how the game sits in a wider socio-cultural context. They pursued this interest by asking a range of questions such as: 'Would the game produce the same reaction in a group that lacked the cultural context? What are the attributes of the game that make it resonate?' (Hunter, Nov. 9, 2007). How valid are the assumptions the players make and what are the changes the game triggers?' (Browning, Nov. 13, 2007). 'Why, in a game where blowing people up makes them change their clothes, does a strong anti-violence message come out?' (Hunter, Nov. 9, 2007). Obviously, this group shares, despite controversies, an interest and knowledge in the field of game design, and is furthermore highly engaged and motivated in the issues that are evolving around games for social change.

However, other settings where gameplay occurs include formal educational settings. These vary significantly from affinity spaces, as students often have less interest in engaging in classroom practices (McFadden and Munns, 2002). In these contexts it is vitally important to take sociological perspectives into account when looking at learning spaces. As Bernstein (Bernstein, 2000) argues, classrooms are first and foremost spaces for a certain age group. Yet, banding of social groups is more likely to occur by arbitrary principles, such as race, religion, or most importantly, by class.

Furthermore, classrooms operate mostly by success and failure. Success enhances aspiration, motivation and engagement of learners, while failure might lead to resistance and alienation (Bernstein, 2000). In contrast to affinity spaces that are mostly driven by shared interests, classrooms can be highly heterogeneous spaces where peer group loyalties prevail, according to arbitrary principles and performance. Therefore, whether the gameplay is situated in an affinity space or formal education settings can shape the gameplay experience significantly.

Although the above examples all vary greatly, it becomes obvious that the level of engagement significantly shapes the articulation of a disparity between design intention and the meaning-making process. In the 'Du bist Deutschland' campaign, engagement was often shaped by a fierce disagreement with the design intentions. The discussion around the '12<sup>th</sup> September' game evolved by a shared interest, which was fuelled by the players' different perceptions. The study around 'Homeless –It's no Game' was conducted with voluntary participants, who agreed to engage in the study, but did not necessarily have any affinity towards the topic. Nevertheless, assumptions about the disparity are drawn from people who did engage in the first place, and not from people who, for various reasons, did not engage. Consequently, different levels of engagement and commitment within the setting of gameplay can notably influence the gameplay experience. However, gameplay in educational settings can involve disengaged audiences. Before determining whether a game is able to integrate the 'authentic professionalism', we must take the diversity of the players into account. For this reason, a methodology that captures coherently the gameplay experiences and allows assumptions about the level of engagement and motivation has to integrate multiple perspectives.

### Methodology

Qualitative research approaches provide valuable tools to enhance understanding of the processes shaping social or cultural issues. Ethnography in particular offers a methodology that rigorously and coherently takes the player, the setting and the game into account and which has been used extensively in game studies (Boellstorff, 2006, Taylor, 2006).

Ethnographic participant observation allows identification and exploration of the dynamic relations within and around a game experience. This involves understanding the meaning of cultural phenomena from the players' point of view by observing, describing and interpreting naturally occurring data (Ruddock, 2000). Ethnographic participant observation aims to observe

different perspectives without removing the subjects from their context and putting them into an overly experimental setting. In this particular case, *SCAPE* is an established school program in the physical location of Kelvin Grove Urban Village, and so the research design is situated in an already existing social, cultural and educational setting.

A starting point is to sketch a so-called ecology. This establishes that dynamic relationships and processes exist in the intersection between gameplay, the design of the game, and the players. Such an ecology enables the participatory and social nature of gaming to be taken into account (Salen, 2008).

An ecology may comprise the game with the particular setting of the gameplay experience, the players, the game designers, and the researcher and her role in the modification of those relationships. Ethnographic research requires a flexible and situational frameset, depending on the research question or evolving issues. Therefore, the identification of crucial relationships is determined by criteria for that specific study (Ruddock, 2000). Accordingly, the ecology can be widened to take additional factors into account. In an educational setting for instance, educators may play a vital role in the decision-making process.

In the case of *SCAPE*, the relationship between the designers and players is determined by the gameplay experience. Both the designers and the players are embedded in a world where urban sustainability, as depicted in the game, is subject to constant change. Therefore, the designers and their beliefs, values and worldviews are an important factor in this framework, as the designed artefact shapes the relations within the ecology.

The players enter the gameplay with expectations and attitudes, based on their own beliefs and worldviews. The relationship between designers and players is entirely mediated by the gameplay. Although the designers shaped the game by rules and constraints, the gameplay itself does not directly determine the outcomes of gameplay.

In addition, the teachers involved have a vital role as well as they prepare their student group for participating in this learning experience and sometimes shape gameplay and learning experiences by assignments. However, at this point the study is not concerned with individual teaching styles of teachers and their ability to incorporate technology into their teaching. Rather, the main focus is on the teachers' perspective on the game and the surrounding setting, their values and their expectations.

Furthermore, in the proposed ecology, the interventions of the researcher in the process of research must be comprehensively acknowledged. Naturally, the research process interferes in the phenomena being researched and modifies the relations being studied. As a result, the boundaries around an ethnographic approach are blurred (Hammersley and Atkinson, 1995). Through the engagement and participation of the researcher and the data that emerges, categories for later analysis are created. This implies, that the original research questions are subject to change, based on emergent and unanticipated categories (Hammersley and Atkinson, 1995). Consequently, the researcher does not plainly reveal an objective knowledge, but in fact contributes to constructing the relationships that are being researched. Although the researcher aims to recreate the culture observed objectively for the reader, Ruddock argues that the significance lies in the interpretation of the data. At the same time the researcher has to consider 'how the research process itself influences the information gathered' (Ruddock, 2000, p. 139). It is also essential to recognize that knowledge gained is mediated through the paradigmatic assumptions of the researcher (Hammersley and Atkinson, 1995). These assumptions may include implicit pre-suppositions, generalisations, working models, gender and race (Law, 2004).

Drawing on various methods to gather data, and collecting data from various perspectives will account for the diversity of perception of the various groups. Data will comprise observations of players and their engagement and discussions during gameplay. Post-gameplay questionnaires provide players with the opportunity to evaluate the game and their experience through open questions. It is important to establish that these questionnaires do not assess the learning of the players, but that the players can reflect on their meaning-making process. Correlating the observations of the players with their articulation of their experience through the questionnaires might then provide evidence of their level of engagement and motivation towards the gameplay. By utilising these two sources of data, the researcher aims to gather a rich account of the emerging disparities between the game design and the actual gameplay experience. This data collection process is further enriched by data from teachers about their observations of students' previous knowledge, students' expectations and their performances.

The emergent patterns and issues from the analysis of the data will subsequently form the basis for interviews with the game designers. The aim of these interviews is to reveal potential disparities between the design intentions and the actual gameplay, so that these disparities can be addressed and minimized in further iterations of the game design.

## Conclusion

This paper has discussed how gameplay which is conducted in formal educational settings can vary significantly from gameplay that is conducted in so-called "affinity spaces" (Gee, 2003). Players negotiate the relations within these settings, which in turn may impact both on the level of engagement and their meaning-making. In order to determine and analyse potential disparities between game design and the meaning-making process of the players, this paper has argued that gameplay needs to be positioned in a wider ecology of learning.

Working with the educational simulation game *SCAPE*, this paper has identified ethnographic participant observation as a methodology that is capable of addressing this wider ecology of learning. The strength of ethnography is that it is flexible and situational and thus takes into account the multiple perspectives of the game designers, players, educators, and the researcher. The next stage of this ethnographic method is to determine how insights gained from the data about levels of engagement and motivation can inform effective and iterative design practices.

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## References

- Bernstein, B. (2000) *Pedagogy, Symbolic Control, and Identity: Theory, Research, Critique*.
- Boellstorff, T. (2006) A ludicrous discipline? Ethnography and game studies. *Games and Culture*, 1, 29-35.
- Gauntlett, D. (2006) Ten things wrong with media effects studies. IN Weaver, C. K. & Carter, C. (Eds.) *Critical readings: Violence and the media*. Maidenhead and New York, Open University Press.
- Gee, J. (2003) *What video games have to teach us about learning and literacy*, New York, Palgrave-McMillan.
- Gee, J. (2005) What would the state of the art instructional video game look like? *Innovate*, 1.
- Gee, J. P. (2008) Learning and games. In Salen, K. (Ed.) *The ecology of games. Connecting youth, games, and learning*. Cambridge Massachusetts, MIT Press.

- Hammersley, M. & Atkinson, P. (1995) *Ethnography: Principles in practice*, New York, Routledge.
- Lavender, T. (2007) Homeless: It's No Game - Measuring the Effectiveness of Persuasive Videogames. *Serious Games Summit*. Montreal, Quebec.
- Law, J. (2004) *After method - mess in social science research*, New York, Routledge.
- McFadden, M. & Munns, G. (2002) Student engagement and the social relations of pedagogy. *British Journal of Sociology of Education*, 23, 358-366.
- NEWSGAMING.COM (2003) September 12th.
- Polson, D. (2006) SCAPE Kelvin Grove Urban Village Simulation. Completion Report. Brisbane, ACID Australasian CRC for Interaction Design.
- Ruddock, A. (2000) *Understanding Audiences : Theory and Method*, Sage Publications Ltd. .
- Salen, K. (2008) Toward an ecology of gaming. IN SALEN, K. (Ed.) *The ecology of games. Connecting youth, games, and learning*. Cambridge, Massachusetts, MIT Press.
- Shaffer, D. W. (2005) Epistemic Games. *Innovate Journal of Online Education*, 1.
- Sommer-Guist, C. (2006) Du bist Deutschland – An initiative causes an uproar. Goethe Institut.
- Taylor, T. L. (2006) *Play Between Worlds: Exploring Online Game Culture*, MIT Press.

## Games

- Homeless: It's no game* (2006) [www.homelessgame.net](http://www.homelessgame.net). Westcoast Solutions
- SCAPE (2006) <http://kgups.acid.net.au>. ACID
- September 12th. A Toy World* (2003) [www.newsgaming.com/index.htm](http://www.newsgaming.com/index.htm). Newsgaming

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