

Explicit and Implicit Narratives in the Co-Design of Videogames

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Abstract

This paper discusses key narrative design challenges posed by an on-going multi-disciplinary research project, Maritime City. The paper focuses on how narrative has, in different ways, been at the centre of the design process and on how principles of co-design might be used and adapted to address the challenges posed by the project.

Keywords

narrative; game design; educational games; serious games; co-design; participatory design; interdisciplinary research

Introduction

This paper discusses key narrative design challenges posed by an on-going multi-disciplinary research project, Maritime City. The project involves researchers and students (across the disciplines of narrative and games design and health and social care) as well as healthcare professionals, in the development of a video simulation game, which is aimed at training health and social workers. To date two different scenarios have been developed within the project – one relating to child protection and the other to healthcare for dementia sufferers. The paper focuses on how narrative has, in different ways, been at the centre of the design process and on how principles of co-design might be used and adapted to address the challenges posed by the project. It also suggests that such co-design methods might

be relevant to a range of collaborative research projects, which often face similar challenges of communication and understanding [3]

-Designing games for education-

We begin by stating some general principles relating to the design of games for education and also by establishing the rationale for learning through gameplay. Modern theories of effective learning ally closely with certain features of gameplay [2] [4]. Connolly et al state, for example, that both effective learning and game activities can be described as ‘active, experiential, situated, problem-based’ [2]. Beyond this general fit, lies the more specific need to design for precise learning objectives. It is important to ‘know the semiotics and context for the entertainment the game is to provide and the semiotics and context for the education the game is to provide’ [5] and to make sure they don’t pull in different directions. In other words, in order to design the game effectively, the designers need to understand the educational objectives, values and frames of reference and to tailor the game accordingly.

Case study – maritime city

-Genre and Style of Game-

The serious content of the subject matter, particularly the child protection scenario, to some extent resisted gamification, in that this might seem to trivialise it. Moreover, the health educators involved in the project made clear that it was not generally their approach to teach clear right or wrong answers to most situations, but rather to role play and discuss alternatives. The designers therefore decided not to employ a traditional gamification

model: for instance awarding points or stars for completing the scenario in the “right” way, keeping scores, facilitating players to win or lose. The decision was made to produce a simulation type game, in which the player would take the role of a social worker. The simulation would take the form of a world that the player could explore (in a fairly limited way, by being able to look around him/her and focus on different things in the environment) and a branching narrative structure, through which players might take different routes, depending on their choices. Although a simulation may not facilitate a player to win or lose in a cut and dried way, it can encourage a player to reflect upon their choices and reconsider or reformulate them and offers many of the features attributed to both games and active learning: including agency, problem solving, effective skills practice and learning through concrete experience, rather than through general principles [4].

-Narrative Structure-

The simulation genre relies, more heavily than do some videogames, on narrative elements such as story and character, in order to engage and motivate players. The key narrative challenge was to adapt the case studies and roleplay scenarios, which were employed in health and social care training, to a branching narrative structure suitable for a videogame simulation. A series of planning documents were used to do this. The health educators supplied final year undergraduate screenwriters with case studies and roleplay scenarios that were used in health care education. The case studies provided brief character profiles and back histories of key characters, while the role play scenarios outlined the key events to take place in the simulation. These documents included questions for health care students to address in assessing the case studies and participating in the roleplay.

The writers adapted these documents to produce first episode outlines and then scripts. Their key tasks in doing this were to:

- develop the characters according to the notes given
- outline a basic plot progression based on the events listed
- reformulate the key questions and issues raised for health care students into choices for players to make as they progress through a branching narrative

Key issues to address in this adaptation were:

- 1) The scenarios tended largely to take the form of reported speech. These reported events needed to be turned into action that the player experienced in the game
- 2) The writers needed to consider the difference between a) the relationship between participant and role

in live action educational roleplay and b) the relationship between player and player character in a videogame. In the former case, the participant has to stick to a set scenario, but can decide what to say to the other characters and how to say it. In the case of the video simulation game, the player plays a pre-defined character and chooses action and dialogue for her character from a narrow set of choices. Compared to live action roleplay, in the video simulation there is therefore more distance between participant and role and less freedom in how the participant interprets the role. These features can be seen as both advantages and disadvantages from an educational and motivational point of view. For example, if a participant is confident and gifted at roleplay and well informed of the professional context, they might find the live action context more rich and engaging than the video simulation. However, a participant who is under confident in roleplay and ill informed as to the professional context, might find the structure of the video simulation a more supportive environment for learning. The aim must be therefore to maximise the obvious advantages and to try to turn any potential disadvantages into further advantages.

The screenwriters therefore considered how to develop the player characters and their interaction with non-player characters (NPCs), so as to exploit the dramatic potential of the complex relationship between the participant’s sense of self and that of the character role he/she plays during the simulation. The intersubjectivity that results from this relationship can create a dynamic third space of dialogue and reflection [13], which maintains richness of experience for all players. Another potential advantage was the fact that in a videogame the player relates to the player character (in this case a social worker) in a game not only as a ‘fictional being with an inner life’ [13], but also as a ‘game piece’ or tool, which he or she uses to progress through the game. This can be leveraged to focus the player on the particular skills they are employing and so increase the potential for learning and self actualisation.

3) The screenwriters could not fully grasp the educational objectives and values from the documents alone. They sought additional clarification from the health educators, who provided written answers via email to specific questions. However, as detailed below, this did not entirely solve the problem.

Initial Problems

On reading the first script draft, the health researchers working on the Child Protection scenario wanted to take out most of the choices, which had been incorporated into the gameplay of the script. This was a problem for the writers as the game relied on these choices to create the branching narrative, which is a common way of handling storytelling in videogames. Meadows’ definition [10] (via

Lindley [9]), succinctly describes the main concept: “a time-based representation of character and action in which a reader can affect, choose, or change the plot”. Games are usually structured in this way in order to facilitate replayability. In scenario based serious games such as Maritime City this enables different areas of teaching and learning to be presented to the player. The writers therefore felt that a purely linear storyline would mean that the educational use of the game, especially with the same cohort of students over a period of time, would be problematic.

Through further discussion the reasons behind the health researchers’ reaction became clear:

1) The health educators’ intention was to amplify the game with written materials and class discussion. They wanted some of the consequences of choices to be left ambiguous to facilitate wider discussion. Therefore, a much closer integration of the design of the game and the design of the wider pedagogical context was necessary. The writers and game designers had to get involved in the design of classroom discussion and additional written materials, which had originally been considered the sole preserve of the health educators.

2) In several cases, the choices had been rejected because they didn’t relate to the key learning areas and outcomes. The writers therefore needed to better understand the educational objectives and values.

3) Because they were unused to reading the script format, the health educators found it hard to separate form and content and initially rejected the choice mechanic itself, when it was ultimately the content and context, rather than the form itself, which posed the problems. The health educators therefore needed to develop their understanding of dramatic and screenwriting conventions and game aesthetics and technology.

The concept of the boundary object is a useful one to employ at this stage. The term was coined by Leigh Star, in an analysis of cooperative working practices. Her research suggested that cooperation was often achieved through the use of boundary objects, which meant different things to different communities of practice, but allowed them to work together by creating a ‘shared space’ [7]. A boundary object might be many things, including a map, a document, a form, a set of rules, or even a concept. Boundary objects tend to have a vague identity that is shared across different groups, allowing them to work together, while at the same time different groups will also use the same object in a more tailored, specific way within a more local context.

With regard to the Maritime City project, the concept of the serious game, the scenario, the story outline, the script, the learning objectives and many other elements might all be considered boundary objects. Although they facilitated collaboration and discussion between writers,

designers and health educators, each focussed on different priorities in their use and understanding of these objects. They therefore also became sites of communication breakdown and conflict, when these differences in interpretation were fully revealed. One of the reasons for this breakdown was the fact that we were employing boundary objects from two different work structures: script development and health education. This meant that there was in fact very little shared identity of the boundary objects across the groups, much less than the local groups initially assumed.

Co-Design

At this point it became clear, in a way that had not fully been articulated before, that the project necessitated a process of participatory design, or co-design [11]. The reason that we did not initially follow co-design principles lies in the cultural practices and conventions of media production, to which game design belongs. Co-design is rarely applied within media production either as a theory or a methodology. It is clear however, that it is an important consideration for the design of educational videogames and that it would have been a good idea, in the Maritime City project, to have acknowledged the context of co-design and taken steps to achieve a shared understanding of the design space at the start of the project. These steps are named differently by different theorists and practitioners (e.g [11], [12], [15]). However, broadly speaking, they aim at a) establishing a design team that includes non-designers, e.g end-users or other stakeholders b) facilitating knowledge transfer between designers and end users/domain specialists. c) shared problem definition d) shared generation of design concepts. Within the Maritime City project, the problems discussed above could be attributed largely to the fact that we had not explicitly addressed stage b) and not given sufficient attention to stage c).

Implicit Narratives

In the Maritime City project, we found that there were narratives in play within the professional worlds of the stakeholders, of which they were not consciously aware, but which impacted on the game. We will illustrate this with examples from both the child protection and the healthcare for dementia sufferers scenarios. In the case of the former, the key learning objectives of the simulation were established as being to develop players’ skills in communication and empathy, as well as decision making and prioritising. The writers incorporated these into the narrative and gameplay from story outline onwards. However, quite late on in the process, as part of the face to face discussion of the first draft of the script mentioned above, the health educators stated that these learning objectives related to particular priorities in child protection. These priorities were to a)

combat a perceived lack of robust risk assessment and b) improve information sharing between professionals. It further emerged that these priorities related to the serious case review of the baby Peter Connelly child abuse case, which contained a number of recommendations about how to handle the situation of a manipulative stranger in the family as well as the difficulties of communicating between different parts of the system (e.g. police, healthcare professionals, social workers) [8].

This context could not be understood from the case studies and scenarios from which the writers were working, yet it was ultimately crucial to the narrative. For example, it clarified for the writers why the health educators assumed that the parents ('Ellie' and 'Luke' see figures 3-6 below) in the child protection scenario should be 'guilty', whereas the writers wanted to build in more dramatic complexity through ambiguity. It also made clear to the writers that they needed to include conversations between professionals as part of the action and part of the decision-making engaged in by players.

The issue here is that, although there were many discussions about learning objectives, the wider context for these objectives was so foundational to the understanding of the health educators that they took it for granted and weren't conscious of the need to communicate it to the writers.

As recounted above, the design team did not properly implement all the recommended stages of co-design for this first scenario. However, we posit that, even if they had, it is unlikely that these implicit narratives would have emerged immediately through such an approach. This is evident from the fact that explicit efforts were made, when developing the second scenario, relating to healthcare for dementia sufferers, to include stages b) and c) of the co-design process. However, as the project developed, it became apparent with the second scenario that there were once again still tacit imperatives that had not initially been voiced by the health educators and professionals. These included the facts that early diagnosis of dementia was a current health care priority [6] and that David Cameron had made a substantial increase in early diagnosis a specific government target [1]. Again these narratives were crucial to aims and objectives of the project, but were so embedded in the domain experts' understanding that they remained implicit till some time into the project, despite efforts to elicit them early on.

While it may be a good idea to try to get the tacit and implicit voiced and explicit at the start, therefore, this just may not be possible. We would propose that the creation of a shared understanding of the design space must be understood as an on-going activity, rather than something to be resolved at the start and then be done with. It must be an iterative process at all stages [11].

A crucial element in this process would appear

to be face to face dialogue. When working on the second scenario, the boundary objects of aims and objectives, case studies, treatment and script were used as starting points for extensive face to face discussion between game designers, health educators and professionals. Through these face to face discussions, implicit narratives and tacit knowledge emerged more quickly and a shared understanding of the design space was firmly established. There appears to be no easy substitute for this social interaction in developing 'a shared framework for interpretation' [14]. Just like the unique interaction that takes place between player and player character in playing a videogame, face to face dialogue between co-designers creates an intersubjective space of understanding and reflection, which it is hard to achieve through other methods.

Conclusions

The narrative design of Maritime City as a serious/ educational game involved a co-design process, through which case history narratives and role play, used within a health education context, were adapted into a video simulation, using a branching narrative structure. Our experience of this process leads us to recommend, first, that the design of educational videogames (including but not exclusively the narrative design, which is the particular focus of this paper) is best considered as a project of co-design; second, that the following principles and practices are crucial to the co-design of educational videogames:

1) It is useful to begin the project by explicitly sharing expertise and values relating to the domains to which the co-designers belong. For example, in a project like Maritime City, it might be useful for the health educators to give a sample lecture/seminar, health professionals to give a presentation on key issues in their field, game and narrative designers to present on principles of game design, drama and narrative etc.

2) It is also vital to understand the importance and unique potential of on-going face to face dialogue and social interaction, through which to create an intersubjective space of creation and understanding.

3) It is necessary to adopt an iterative approach through all stages of the process and to expect that tacit knowledge will emerge as part of the process and cannot all be voiced at the start.

4) An informed understanding of the role of boundary objects is also useful, when designing for a particular institutional or cultural context. Within an iterative work model, they can provide catalysts to elicit tacit knowledge and implicit narratives. They can be used strategically to deliberately (rather than accidentally) foreground differences in interpretation and understanding and so gain new insights into institutional values and

cultural practices that have not yet been explicitly voiced.

It is our hope that, beyond the field of educational game design, these conclusions may also provide a useful contribution to the wider discussion of participatory design or co-design and may also be relevant to a wider range of collaborative projects, which involve cross-domain knowledge and values, such as interdisciplinary research and knowledge transfer between HEI and industry.



Figure 4 - Ellie and Luke



Figure 1- The house and street



Figure 5 - Liam in his cot



Figure 2 - The view as the player nears the house



Figure 6 - Inspecting the baby bottle with glass in the top



Figure 3 - Meeting Ellie for the first time



Figure 7 - The final scene of Scenario 1

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