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 ongoing 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 ongoing 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
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into action that the player experienced in the game
reported speech. These reported events needed to be turned
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first episode outlines and then scripts. Their key tasks in
participating in the roleplay.
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simulation. These documents included questions for health
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profiles and back histories of key characters, while the role
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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 replay-
ability. 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
elements 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.
References


