Teaching Narrative Design

On the Importance of Narrative Game Mechanics

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INTRODUCTION

For fifteen years now, I have been teaching the design and analysis of computer games. Although my approach and focus have changed over the years, I have always had a strong interest in the narrative potential of game mechanics. In my 2016 paper for the annual ICIDS conference, I coined the term *narrative game mechanics* to describe mechanics that "invite agents, including the player, to perform actions that support the construction of engaging stories and fictional worlds in the embodied mind of the player" (Dubbelman 2016: 43). The reason why I have developed the idea of narrative game mechanics can be found in my teaching experiences.

In my narrative design classes, I have noticed that students are not used to looking at mechanics from a narrative angle, and often expect lessons on game writing instead of game design. Also, when a team of students want to create a narrative game on their own, they often struggle. Without guidance, the following usually happens: Within the team, one or two students are *into* narrative, meaning, they like to write. These students work on the game script and the worldbuilding bible. They write the storyline, create the characters with their backstories and work out the details of the game's imaginary world. Other students, often designers without a specific interest in storytelling, take the responsibility for designing the mechanics. In most cases, they copy mechanics from a genre they love, and add some novel twist.

When designing the mechanics, the narrative, created by the other students, is never really taken into account. Frequently, the narrative is developed separately from the mechanics, and is simply added to the game, at some point in

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time, through (spoken) in-game texts and cutscenes. In this way, narrative becomes an afterthought, or simply a nice but expandable add-on. The mechanics do not really rely on the narrative; one can simply change the backstory, and the mechanics will still make sense.

For me as a teacher, this situation poses a considerable challenge. I want my students to come up with unusual designs, but with their design approach, the resulting games are often similar to existing games, just with different (and interchangeable) narrative backdrops. It is important to teach students a more integrated approach, showing them how mechanics can be used as a dynamic narrative device, alongside other narrative devices, like dialogues or cutscenes, to create engaging narrative experiences. I want them, for example, to discover how, in the design process, original storylines could lead to unexpected mechanics, and vice versa, that novel mechanics might produce surprising storylines.

To accomplish this, I have built my classes around the notion of narrative game mechanics, and developed tools to help students connect mechanics and authored narrative in practice.

As argued in previous publications, narrative design is still underdeveloped as a creative discipline, and lacks shared vocabulary, methods and tools (Koenitz/Dubbelman/Knoller/Roth 2016; Dubbelman/Roth/Koenitz 2018). By sharing my approach, I hope to inspire other teachers, and by doing so, contribute to their educational efforts and the advancement of the discipline in general.

First, the article will discuss the notion of narrative game mechanics, and its theoretical groundings. Second, it will showcase the Narrative Design Canvas as a practical instrument for teaching narrative design. This canvas can be used by students to analyze and design narrative games. It helps them to recognize and establish a connection between a game's written narrative (expressed for example in dialogues and cutscenes) and a game's mechanics. The article concludes with a closer look at the game *Brothers: A Tale of Two Sons*. Using the canvas, the game's narrative design will be analyzed. This analysis reveals how the game succeeds in creating an engaging narrative experience by articulating developments in the authored storyline through changes in the game mechanics.

COGNITIVE NARRATOLOGY

To understand how mechanics can function as a narrative device, it is important to first explain my understanding of the term *narrative*. Following the work of cognitive narratologists like Marie-Laure Ryan and David Herman, I approach narrative as a cognitive frame for meaning-making. This cognitive understand-

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ing allows me to address the arguments from ludologists in game studies against theorizing games as a narrative medium. One of the most convincing arguments is based on the apparent differences in formal properties between games and established narrative media, like books or movies (Eskelinen 2001; Juul 2001). Games are interactive systems, and consequently produce dynamic output. In contrast, books and movies lack this interactivity, and have static output. To put it simply, a movie shows the same images every time it is played, and a game, through system and player, does not.

When you look at these differences from a traditional understanding of narrative, one could indeed make the argument that games are unsuitable as a narrative medium. According to Marie-Laure Ryan, in traditional narratology, the term *narrative* is seen as being synonymous with the term *recounting* or "telling somebody else that something happened" (2004: 13). Ryan recognizes this traditional approach to narrative in the work of many ludologists (2006: 184). Indeed, with this particular understanding of narrative in mind, the formal properties of books and movies are better suited for narrative purposes. That is, their static output makes it easier to recount; to communicate 'this happened, then this happened, then this happened, etc.'.

However, when embracing an alternative, cognitive understanding of narrative, this argument no longer holds. If you understand narrative as a mental process of meaning-making, the output of a narrative medium does not necessarily have to be static. The formal properties of a medium do not have to be suited for explicitly communicating 'this happened, then this happened, then this happened, etc.', because the causal connections between events can be made cognitively by the user. The player is actively constructing a narrative, based on their personal engagement with the game's imaginary world. Again, my understanding of narrative stems from cognitive narratology, and echoes the work of David Herman, who understands narrative as a "forgiving, flexible cognitive frame for constructing, communicating, and reconstructing mentally projected worlds" (2002: 49). In order to make sense of the presented world, the characters that inhabit it, the events that take place, and the player's own goals, roles and position, the player is actively constructing and re-reconstructing a meaningful, mental narrative.

It is important to emphasize that this construction does not happen after the fact (retelling), but in real time, in the moment of acting (Graesser/Olde/Klettke 2002). As emphasized in narrative comprehension theory, mental narrativization is a real-time process in which readers are continuously accessing how the status of the narrative (of the world, the characters, the conflict, etc.) changes through the depicted events: "[…] the mental representation of a narrative can be thought

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of as a complex network of states and events tied together by causal relations." (Fletcher/Lucas/Baron 1999: 195) Likewise, when playing a game, players are continuously updating their understanding – their narrative – of the game's imaginary world.

To sum up, although there are apparent differences in the formal properties of movies and games, both can trigger processes of narrativization. Whether I watch a movie or play a game, in both instances, a narrative can be constructed in my mind. Indeed, these narratives are not necessarily similar and can have different qualities, but they can both be engaging and recognizable as narrative. Thus, from a cognitive perspective, narrative is not in the work itself, but in the mind of the user. Users are actively constructing a narrative while mentally (and physically) engaging with a specific work (Herman 2009). This process of narrativization happens even when there is no authorial narrative intention behind a work. One can find a story in a painting, even though the painter never aspired to tell it.

But are all games narrative games then? According to Ryan, we can still describe certain works as narrative works, or better, as being more narrative-driven, because they – often deliberately, but sometimes unintentionally – trigger more narrativization than others. Ryan calls this the property of "possessing narrativity" (2004: 9-10). For games, the same applies. When playing a game, a narrative can be triggered in my mind's eye, even though the designers never had any narrative intentions. We should, however, reserve the term narrative games or narrative-driven games for those games where the design is (intentionally) catered towards triggering an engaging narrative in the player's embodied mind.

NARRATIVE GAMES

When looking at narrative games, we can observe a great variety in how these games try to evoke mental narratives. Some games rely heavily on a pre-authored storyline, taking the player through a more or less predefined narrative path (e.g. *Last of Us*). Other games leave more room for the player to explore and to direct the course of the narrative, for example through branching structures (e.g. *The Walking Dead*), or alternatively, through emergent structures (e.g. *Middle-earth: Shadow of Mordor*).

Regardless of how games try to trigger processes of narrativization, in each case, mechanics and rules play a key role. As also recognized by Salen and Zimmerman: "[…] it is the dynamic structures of games, their emergent com-

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plexity, their participatory mechanisms, their experiential rhythms and patterns, which are key to understanding how games construct narrative experiences." (2003: 382-383) Whether a game relies on a predefined narrative path, or uses branching storylines, or creates a narrative experience through emergent structures, in each case the mechanics, in tandem with other narrative devices, are responsible for the overall narrative experience.

When we look at the current game industry, some of these narrative devices have already been brought to fruition. For example, many of the existing critically acclaimed narrative-driven games have perfected the device of environmental storytelling, also known as narrative architecture (Jenkins 2004; Nitsche 2008). In games like *Firewatch*, *What Remains of Edith Finch* and *Everybody's Gone to the Rapture*, the environment is cleverly used to communicate relevant narrative information, such as backstory, conflict and character personalities.

Alternatively, popular games like *Until Dawn* or Telltale's *Game of Thrones* make extensive use of on-screen choice prompts. At specific moments during the game, the system presents the player with a limited set of predefined choices in form of prompts on the screen. These can be mundane, like choosing which road to take, or they can be more dramatic, like deciding which character perishes.

Unlike environmental storytelling and on-screen choice prompts, narrative game mechanics are still underdeveloped in the industry, and underexamined in academia. To counter this, I have conducted additional research on the topic (Dubbelman 2017), and used the outcomes to develop the aforementioned tools for aspiring game designers. One of these tools, the Narrative Design Canvas, is discussed below.

NARRATIVE DESIGN CANVAS

The Narrative Design Canvas (Figure 1) has been developed to facilitate discussions between students about the design of narrative games, specifically regarding the connection between the intended player experience, the interaction possibilities and the written narrative. The games under scrutiny can be either existing games, analyzed in the classroom, or games that the students work on in their projects. By facilitating design discussions, the canvas tries to break the students' habit of focusing solely on the written narrative, or alternatively, solely on gameplay, as explained in the introduction.

When working on their own projects, students mainly use the canvas during the concepting phase. Before turning to the canvas, students have already gone

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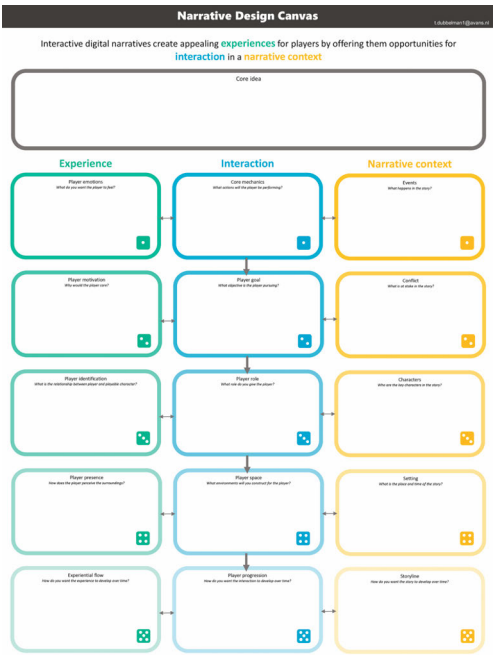
through an ideation phase, and have chosen the most promising idea. This idea is then written at the top of the canvas. Subsequently, students start working on the canvas, following this basic rule: they can start on any field of the canvas, but are required to fill in the other two fields on the same horizonal level, before moving up or down the canvas.

Figure 1: Narrative Design Canvas.[1]



Source: Teun Dubbelman

The canvas has three pillars: experience, interaction and narrative context. Each pillar has five key elements. In the experience pillar they are: player emotion, player motivation, player identification, player presence and experiential flow; in the interaction pillar: core mechanics, player goal, player role, player space and player progression; and in the narrative context pillar: events, conflict, characters, setting and storyline.

1 For the pdf and the instructions, see: https://www.researchgate.net/publication/343858640_Narrative_Design_Canvas.

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As mentioned, students are only allowed to work horizontally, not vertically. For example, students with an interest in narrative must not work solely on the narrative context and only write down the events, characters, conflict, setting and storyline of the game. They may start with one of these elements, but before continuing to another narrative field, they need to fill in the adjacent fields of the experience and interaction pillar. For example, students may start by writing down the main events of the game, but before moving on to another narrative field, they need to write down the core mechanics and the core emotional experience of the game first.

In this way, the canvas tries to guide the creative thought process of students towards a more integrated approach. Other teams might start with the core mechanics or the core emotional experience. Regardless of this, in each case, students are invited to think about the interconnection between the three pillars, asking themselves questions such as: what kind of emotions do we want to evoke; what kind of mechanics do we need for this; and what kind of events do these mechanics imply? Or, what kind of events do we want in our game; what kind of mechanics do we need to create these events; and what kind of emotions could these events carry?

As such, the canvas is primarily an educational tool, not a design tool. Although the canvas may also support the actual design process, the purpose of the canvas is to teach students a creative mindset that helps them to create engaging narrative games; games in which the narrative experience as envisioned by the students is not only expressed in dialogues or cutscenes, but also arises from the interplay between mechanics and the other narrative devices in the game. When explaining the canvas to students, it helps to show them examples of such games. It goes beyond the scope of this article to address each field on the canvas, and the interconnectedness between these fields, in detail, so I will only discuss the bottom of the canvas, using one game as an example.

At the bottom of the canvas, we find the following three fields: experiential flow (the experience pillar), player progression (the interaction pillar) and storyline (the narrative context pillar). Although the connection between these three horizontal fields might not be immediately obvious, upon closer examination the connecting element appears to be time, or more precisely, development over time. To make this clear to students, each field contains a short question for them to answer, namely:

- *Experiential Flow: How do you want the experience to develop over time?*
- *Player Progression: How do you want the interaction to develop over time?*
- *Storyline: How do you want the story to develop over time?*

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Students need to answer all three questions before moving further up or down the canvas. Again, by asking the students to answer all three questions, the canvas lets them consider the interplay between experience, interaction and narrative; something they probably would not do without the canvas. For example, it has become common practice in game design to give players more gameplay possibilities as a game progresses, mainly to keep them interested and challenged (Björk/Holopainen 2005). Because students are used to this convention, they copy it, often without really considering why they incorporate it into their designs. With the canvas, they are invited to reflect on their design decisions. It allows them to consider that changes in gameplay might also be employed for narrative purposes, and that changes in gameplay can carry narrative meaning and create emotional impact.

A game that does this particularly well is *Brothers: A Tale of Two Sons*. When discussing the bottom of the canvas in class, I usually examine the game together with students. In the next section, I share this analysis and explain how the game succeeds in creating an engaging narrative experience by articulating developments in the authored storyline through changes in the game mechanics.

BROTHERS: A TALE OF TWO SONS

Brothers: A Tale of Two Sons is a third-person adventure game released in 2013 by Swedish game company Starbreeze Studios. Since it appeared, the game has received strong critical acclaim, particularly because of its unorthodox narrative design (Roth/Nuenen/Koenitz 2018). As will be shown, the game cleverly uses game mechanics to express narrative meaning, in tandem with cutscenes and spoken text. It deliberately changes the mechanics over time to articulate key moments in the authored storyline, and by doing so, heightens their emotional impact.

The story of the game deals with two brothers who leave their village on a quest to find a cure for their dying father. At the start, the player is introduced to the controls of the game. The controller's left thumbstick and trigger button are used to direct the older brother, while the controller's right thumbstick and trigger button are used to direct the younger brother. With the thumbsticks, the player guides the movement of the brothers, and with the triggers, their interaction with the environment. To overcome obstacles in the game, the player needs to control both brothers at the same time and make use of their unique abilities. For example, the older brother is strong and can move objects, while the younger

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brother is little and can pass through small openings. It soon becomes clear that the two brothers need each other in order to survive and fulfil their quest.

However, at some point in the storyline, the older brother dies (mainly shown in a cutscene). Instead of using the two sides of the controller, the player now only uses the right side, and the left stick and trigger of the older brother become obsolete. Later in the storyline, the younger brother needs to cross a river but is scared to go into the water by himself (shown in a cutscene). When the player directs the younger brother into the water, he refuses to swim. Before losing his older brother, the younger brother crossed water by climbing on his older sibling's back. Only when the player presses the left trigger again (belonging to the older brother), does the younger brother find the courage to cross the river.

Table 1: Progression in Two Brothers: A Tale of Two Sons.

Chapter	I	II	III
Storyline	Brothers on quest to rescue father (brothers physically together)	Older brother dies (younger brother alone)	Younger brother crosses the river to complete quest (brothers spiritually together)
Mechanics	Swim-mechanic I	Deprivation of swim-mechanic I	Swim-mechanic II
Controls	Left stick and trigger to control the older brother; Right stick and trigger to control the younger brother	Right stick and trigger to control the younger brother	Right stick and left trigger to control the younger brother

As can be seen in the figure above (Table 1), the game deliberately changes its mechanics (and associated control scheme) to articulate key moments in the storyline. At the beginning of the game, the repetitive act of simultaneously manipulating the left and the right side of the controller in order to navigate the two brothers through various perilous environments, like rivers, becomes synonymous with the close bond between the two and their mutually dependent relationship. When the older brother dies, the younger one suddenly finds himself alone. The feeling of loss and loneliness felt by the latter is communicated to the player by taking away the need to control the left stick and trigger. Having become accustomed to operating both the left and the right side of the controller,

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and both characters, this change can indeed evoke a strong sensation in players that something is missing. When the player finally reaches the river, and the younger brother does not want to continue alone because he fears the water, the loss of the older brother is again emphasized. When the player finds out what to do – namely, that they need to press the left trigger – the older brother becomes present again, not in body, but in spirit. This marks an emotional moment in the storyline, where the younger brother through the memory of his older sibling, finds the strength to continue and complete their joint quest. Although the older brother is not physically there, the younger one, with the spiritual guidance of his older brother, succeeds in crossing the river by himself. This moment is emphasized by spoken text: the younger brother briefly hears the voice of his departed sibling. Shortly after this, he finishes the quest they embarked upon together.

To summarize, *Brothers: A Tale of Two Sons* deliberately utilizes game mechanics for narrative purposes. By changing the controls and mechanics over time, the game moves towards an emotional climax in the authored storyline, where the younger brother, by remembering his older sibling and feeling his presence, finds the strength to continue.

CONCLUSION

In this article, I have discussed an approach to teaching narrative design for games that is centered around the notion of narrative game mechanics. The purpose of this approach is to teach students a creative mindset that helps them to create engaging narrative games; games in which the narrative experience as envisioned by the students is not only expressed in dialogues or cutscenes, but also arises from the interplay between mechanics and the other narrative devices in the game.

Not only in education, but also in the game industry, the attention to game mechanics in narrative design is still too limited. Narrative design as a distinct practice is relatively new, and with it, the position of narrative designer. Many of the larger companies today employ narrative designers. Their responsibilities differ from studio to studio, but generally focus on game writing or quest design, and not on the design of mechanics. Although some companies try to align gameplay and narrative by establishing a close collaboration between game designers and narrative designers, this approach is vulnerable. Especially in the case of companies who set out to create narrative games, it is almost impossible

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to separate the process of designing mechanics from the process of developing a game's narrative (or quests for that matter).

An important step towards a more integrated approach of narrative design in the industry would be to make future game developers (game designers as well as narrative designers) more sensitive to the narrative potential of game mechanics. In this article, I have shared ideas and tools for achieving this, with the hope of making a minor contribution to the promising practice of narrative design for games.

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