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4.   Looking Beyond Persuasion Through Rule-Based Representations in Digital Games: Designing Games to Shape, Reinforce, or Change Attitudes

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Abstract

Can digital games be used for persuasion? The results of studies that have tried to validate the persuasive potential of digital games seem to be inconclusive. This is because there are multiple ways and strategies to persuade players through games, and some of these may work to address specific goals while others do not. So, the question is not if digital games can be used to persuade players but *how* these games can be efficiently designed to intentionally change attitudes. To better explain how digital games can be efficiently designed for persuasion, we will refer to the shortcomings mentioned by Sicart when arguing against procedurality and how we believe these flaws can be addressed to ensure the persuasive efficiency of digital games.

Keywords: persuasive games; persuasion; procedural rhetoric; attitude change

Introduction

The academic debate on the persuasive potential of digital games culminated in 2011 when Miguel Sicart published his paper 'Against Procedurality'. In it, Sicart argued against Ian Bogost's claim (2007) about the unique persuasive potential of digital games. His discourse was focused on countering Bogost's theory on procedural rhetoric, that is, on the exclusive capacity of digital games to persuade through rule-based representations. Bogost claimed that

the ability of digital games to explain processes through interactions was a powerful persuasive characteristic, making them unique when it came to persuading players.

Sicart, however, positioned himself against this theory, stating that Bogost was ignoring the creativity of players and the fact that they tend to appropriate game rules (Sicart, 2011), which does not guarantee the transmission of persuasive messages in the way intended by designers. According to Sicart (2011), Bogost was disregarding the fact that players look for a sense of agency, that is, having the perception that different actions in a game result in different game experiences, and that, by extension, they as players have control over what happens in the game through their own performance. From Sicart's perspective, persuasive games designed using a procedural rhetoric approach would be too restricted, limiting players' sense of agency and therefore becoming unattractive to play.

Sicart was not, however, the only one criticizing Bogost's claims. Other authors such as Heide and Nørholm (2009), Ferrari (2010), and Antle (2014) have also argued against Bogost's theory. In addition, Bogost himself, thirteen years after publishing his book on persuasive games, has admitted being wrong in some of his predictions related to their persuasive potential (see Chapter 1 of this volume). Does this mean that digital games cannot be used for persuasion? More precisely, does this mean that digital games cannot be designed to intentionally change the attitudes or behavior of a player?

Can digital games be used for persuasion?

To answer this question, we also need to answer another: are digital games persuasive in the first place? By this, we mean: do digital games have the capacity to influence the attitudes or behavior of players, whether intentionally or not? Scholars (Flanagan, 2010; Flanagan & Nissenbaum, 2014; Frasca, 2001; Grace, 2009; Salen & Zimmerman, 2005; Walz, 2003) seem to agree that the answer is yes: digital games are persuasive.

As cultural artifacts, digital games are full of meaning and, whether or not they are designed with persuasive intentions, they always convey a message that can be interpreted by their players. Depending on players' personal circumstances and the context in which the game is being played, the game will, in one way or another, influence attitudes toward the topic the game is covering (Grace, 2009; Murray, 1999; Salen & Zimmerman, 2005). If this is true and digital games are persuasive, it seems logical to conclude that they can be used for persuasion, i.e., to intentionally influence the attitudes or

behavior of players. Scholars do not, however, seem to agree on this. What is unclear, though, is if it is possible to design an appealing digital game for players that can at the same time successfully affect their attitudes in the way intended by designers.

If we pay attention to the results of studies on the effectiveness of persuasive games, providing an answer to this question becomes even more complicated: the results of studies that have tried to validate the persuasive potential of digital games seem to be inconclusive (for a full overview of these studies, read Chapter 10 of this volume). We use the word 'seem' deliberately here, because if we compare the results of different studies we may form the impression that they have contradictory results (Jacobs, 2017; Jacobs, Kneer, & Jansz, 2019; van 't Riet, Meeuwes, van der Voorden, & Jansz, 2018a). While some research concludes that persuasive games do indeed work to persuade players in the way intended by designers (e.g., Kampf & Cuhadar, 2015; Peng, Lee, & Heeter, 2010; Ruggiero, 2015), other scholars conclude that not all persuasive games are effective in the way intended, or, at least, they are no more effective than traditional media forms (e.g., Van 't Riet, Meeuwes, Van der Voorden, & Jansz, 2018b; Chapter 12), unlike Bogost's original claim.

We do not intend to carry out a detailed analysis of the studies conducted on the effectiveness of persuasive games, as this has already been done by Jacobs and Jansz in Chapter 10. If we raise this question here, it is to make the claim that the main reason for these apparently inconsistent results is that persuasive games can be: used for a great variety of purposes; aimed at changing the attitudes of many different types of target group; and applied in disparate contexts. This means that there are multiple ways and strategies to persuade players through games, and some of these may work to address specific goals while others do not. So, the question is not if digital games can be used to persuade players but *how* these games can be efficiently designed to intentionally change attitudes. Note that we are focusing my attention on how these games can be 'efficiently designed' and not how they can be 'designed to effectively change the attitudes of players'. This is because the effects of persuasive games depend on many factors besides the design of the game itself—effects that cannot be completely controlled by designers (e.g., the context in which the game is played, the mood of the player when playing the game). We want to argue, however, that some design decisions can be consciously made by paying attention to specific persuasive intentions and goals, which can improve the efficiency of a persuasive game.

To better explain how digital games can be efficiently designed for persuasion, we will refer to the shortcomings mentioned by Sicart when

arguing against procedurality and how we believe these flaws can be addressed to ensure the persuasive efficiency of digital games. In the next two sections, we will therefore answer the following questions: How can digital games give freedom to players and secure persuasion at the same time? And how can digital games be engaging and persuasive concurrently?

Giving freedom, securing persuasion. Persuasion through digital games goes beyond procedural rhetoric

One of the shortcomings in Bogost's approach (2007) identified by Sicart (2011) concerned how, from the latter's perspective, building persuasion based on procedural rhetoric would mean limiting players' freedom in the game and, by extension, their sense of agency. Efficiently designing games that meet both requirements—i.e., giving freedom to players and meeting a concrete, persuasive goal—requires a good understanding of how digital games can be used to persuade (De la Hera, 2013). In this regard, we have a different vision to Bogost with respect to the ways in which digital games can be used for persuasion. Our main claim, which coincides with the arguments of other scholars in this field such as Heide and Nørholm (2009) and Nelson (2012), is that digital games have a unique potential to persuade players, but this potential includes—but is not limited to—procedural rhetoric. We contend that other persuasive dimensions of digital games should be taken into consideration, and these dimensions are what make digital games interesting persuasive content.

Teresa de la Hera (2019) proposed a theoretical model that goes beyond procedural rhetoric to explain how digital games persuade players. With this model, De la Hera explains that it is not only the rules of the game that convey meaning but that it is also important to acknowledge that there are other elements in a game that are also relevant to persuasion (De la Hera, 2019). Using this model, the author explains how other elements in a game—such as the visuals, the sound, the story, or the audiovisual treatment—can serve to influence how the content of the game is interpreted by players (2019). The model does more than reflect how elements in the game can be used for persuasion; it also explains strategies that can be used in a game's design to persuade players, such as delivering pleasurable sensorial experiences (e.g., using nice vs. irritating background music), fostering social interactions, or appealing to emotions like fear or happiness. All these persuasive dimensions, explained in much more detail in De la

Hera's book *Digital Gaming and the Advertising Landscape* (2019), can be used to persuade a player.

At this point, it is important for us to highlight that our approach is slightly different from the one that Sebastian Deterding (2016) defends. Deterding supports the idea that other persuasive dimensions, such as visual or narrative persuasion, help to frame procedural rhetoric; that is, Deterding still defends Bogost's vision that procedural rhetoric is the backbone of persuasion in digital games, although his discourse supports the idea that persuasion through these games is not reduced to procedural rhetoric and that other dimensions serve to frame this expression. In other words, they add meaning to what is being conveyed through procedural rhetoric. Our perspective on this is different. We contend that these other persuasive dimensions can persuade independently from procedural rhetoric (we give examples of this in the following sections). In other words, procedural rhetoric is only one of the persuasive dimensions that can be used in digital games and is not the persuasive dimension for excellence. For this reason, persuasion through digital games can be achieved through a combination of one of more of these dimensions (including—or not including—procedural rhetoric).

The fact that other persuasive dimensions, such as narrative, sensorial, or sonic persuasion, can be used to influence players' attitudes through digital games helps to support the idea that persuasive games can be open to letting their players feel the sense of agency they require in order to be engaged in the experience and still convey a message that is aligned with the designers' goals (De la Hera, 2019). We support this claim because, if persuasion through digital games is only based on and limited to procedural rhetoric, this means that attempting to persuade players is unnecessary when designing games in which we can predict their performances and so ensure that they experience the game in the manner expected and the persuasive message is conveyed. If persuasion through digital games is the result of a combination of multiple persuasive dimensions, as De la Hera (2019) contends, digital games offer many more possibilities and flexibility for persuasion than procedural rhetoric suggests, allowing for the design of less restricted games than envisioned by those who are against the procedural rhetoric school.

Balancing engagement and persuasion: aligning persuasive goals and game goals

As we support the idea that persuasion through digital games is not only reduced to procedural rhetoric and that the persuasive options are multiple,

the following question arises: How can we design persuasive games efficiently? That is: How should we decide which persuasive dimensions to use and how should we use them to identify the right balance between engagement and persuasion?

We know that persuasive games can be applied to a great variety of persuasive goals that can be aimed at multiple target groups and can be played in different contexts and situations (Jacobs, Jansz, & De la Hera, 2017). For example, we can talk about games that aim to change eating habits (Orji, Mandryk, Vassileva, & Gerling, 2013); influence children's attitudes toward sports (Staiano & Calvert, 2011); foster empathy toward refugees (Kors, Ferri, van der Spek, Ketel, & Schouten, 2016; Raessens, 2010); change players' views in relation to climate change (Raessens, 2018, 2019a); or foster multicultural or intergenerational interactions (Alencar & De la Hera, 2018; De la Hera, Loos, Simons, & Bloom, 2017; Loos, De la Hera, Simons, & Gevers, 2019). We can also talk about mobile games (Winter et al., 2011), online games (Wen, Kow, & Chen, 2011), virtual reality games (Raessens, 2019b; Reid, 2002), and pervasive games (Walz & Ballagas, 2007).

Although some scholars in the field of persuasive games have been trying to propose models and frameworks that help us to better understand how to approach the process of persuasive game design (e.g., Kors, Spek, & Schouten, 2015; Siriaraya, Visch, Vermeeren, & Bas, 2018), it is almost impossible to come up with a magic formula, or even a magic cookbook, for the design of persuasive games due to the wide diversity of applications and solutions. The cookbook proposed by Siriaraya and colleagues (2018), for example, which is the most complete design approach for persuasive games published to date, includes a detailed list of steps and elements to consider during the design process but still lacks clear directions on how to make design decisions. This is the result, as previously stated, of the complexity of digital games as persuasive contents and their multiple persuasive applications.

That being said, there are still some aspects that could be taken into account when making design decisions about persuasive games. In this chapter, we want to focus on two relevant factors that should be taken into consideration when making decisions about which persuasive strategy to adopt: the level of resistance of players toward persuasion and the prior knowledge of players about the topic covered in the game.

When considering the different levels of player resistance and prior knowledge of the topic being covered in a game, there are three different persuasive goals that games may try to achieve: *shaping*, *reinforcing*, or *changing* the attitudes of players. Our claim is that the design approach should be different depending on the main persuasive goal of the game.

This is a complex matter in which multiple elements need to be taken into account. In this section, however, our focus is on how different approaches in the relationship between game goals and persuasive goals should be considered.

Shaping new attitudes

When the target audience of a persuasive game does not have prior knowledge of the topic being covered, the main persuasive purpose is usually to shape a new attitude. In this case, we are normally speaking about players who do not have firm beliefs or established preferences in relation to the subject matter; that is, the game does not face high levels of player resistance toward persuasion. In these cases, the main purpose of the game is typically to convey information that can be useful for a player when it comes to better understanding the question being addressed in the game. When a new topic is introduced and there is no major resistance to overcome, we can design games in which the game goal and the persuasive goal overlap. In games where this occurs, players need to demonstrate that they understand the persuasive message if they are to be successful and progress in the game (Heide & Nørholm, 2009).

An example of a persuasive game that responds to the need to shape a new attitude is *Plague Inc.* (Ndemic Creations, 2012). The *persuasive goal* of this game is to help players understand the different ways in which diseases can spread depending on environmental factors and specific countries' economic statuses. This *persuasive goal* is clearly linked to the *game goal* of players, who have to evolve a pathogen present in a selected country from a non-lethal disease into a highly infectious epidemic capable of ending life as we know it. This means that in order to win the game, players need to understand how diseases spread and how this process is accelerated. Depending on the strategy a player decides to adopt, they will be able to achieve their final goal. In this way, they can learn about and understand the reasons why less developed countries have a harder time fighting a disease while richer countries scramble to find a cure.

In this example, the *game goal* and the *persuasive goal* are perfectly aligned. These games take the form of a simulation in which the player confronts situations in the game in the same way that this happens in real life. This is a way for players to understand the causes and effects of specific situations. It is also a good approach to introducing players to new topics—or to more detailed insights into subjects about which they are already aware—in an environment in which they can experience these topics

in the first person. This is the way Bogost (2007) imagined that persuasive games should work. In his view, such games should serve as simulations in which players can explore first-hand the consequences of their decisions or behaviors, and, as we see in the examples described, procedural rhetoric can serve as the backbone for persuasion.

It is probably easy for the reader to recognize the value of this approach. When the *game goal* and *persuasive goal* are aligned, it is clear that players need to show that they understand the message conveyed if they are to succeed in the game. Our point here is that these approaches are only successful when we are trying to introduce players to something about which they have no prior knowledge and that deals with persuasive messages to which they do not have any resistance. If players do have prior knowledge of the topic the game covers, it is reasonable to state that, if they are experiencing a simulation of something they fully understand, the causes and effects would not be especially attractive. Furthermore, and more importantly, if as well as having prior knowledge of the persuasive message players also have a resistance to being persuaded, it can also be the case that, in simulations like this one, they pretend to agree with the message in order to win the game. This clearly does not necessarily mean that they have changed their attitude to the topic the game covers.

Reinforcing existing attitudes

The second case concerns persuasive games that do not need to overcome players' resistance to persuasion. This is because their main purpose is to reinforce attitudes that are already aligned with the idea the game is trying to convey, although they still need to deal with the fact that players already have prior knowledge of the topic that the game covers. In this group of games, we want to highlight those whose main purpose is to support the player who is convinced that a specific behavior or habit is positive for his/her life but who needs extra support or motivation to engage in this habit or behavior.

The best option for games that aim to reinforce existing attitudes is to design a game in which the game goal and the persuasive goal are somehow related to each other, even though they do not overlap. An example of how this can be achieved is the game *Papo & Yo* (Minority Media, 2012), a 3D puzzle-platformer driven by a story that allegorizes what it means for a child to grow up with an alcoholic father. The *persuasive goal* of this game is to help the player understand that there is nothing a child can do alone to prevent the damage an alcoholic parent can cause and to demonstrate the relevance of seeking help in situations like this.

The *game goal* in this case is slightly different but is still connected with the *persuasive goal*. In the game, the player guides a young boy, Quico, on his quest to find a cure for his best friend, Monster, a gentle, fruit-consuming giant that transforms into a recklessly violent behemoth after he consumes his favorite snack, frogs. The player will find that, no matter what Quico does when Monster enters a frog-induced rage, he will never be able to fight back. The only thing that will work for him is to run and hide and to try to overcome the obstacles blocking his path. The ending of this game is a sequence that teaches Quico that he needs help to fight Monster's addiction, as this is something he cannot do alone. Quico receives help from Lula, a robot that allows him to jump across gaps that are otherwise too wide for him to overcome, and Alejandra, a girl who provides guidance on his journey.

This is a game that addresses a difficult and sensitive topic. In this case, the persuasive goal is to reinforce the idea that there is not much a child can do on their own to fight the terrible damage that an alcoholic parent can cause to a family. Although the players of this game probably understand the relevance of seeking help, anyone who has faced a similar situation knows how hard it is to make a decision to actually ask for support. Children of alcoholic parents usually feel ashamed and even guilty about their situation, and it is common for them to try to hide what they are experiencing. As a result, it is very difficult to decide to look for help or support.

This game is an allegory of this difficult topic, in which narrative persuasion is used to transform the persuasive goal into a game goal that helps the player to reflect on their terrible circumstances. So, we have a game goal that does not completely overlap with a persuasive goal but is connected to it. In this case, procedural persuasion is being used but is clearly framed by narrative persuasion. We can see here how narrative persuasion not only frames procedural persuasion but also completely transforms the players' experience. Accordingly, this game goes beyond the idea of persuasive games being simulations in which the player can experience in the first person how specific performances or choices have concrete consequences. Narrative persuasion is used to give the player the opportunity to look at this issue through a different lens, perhaps relieving part of the emotional overload attached to the real experience.

This is the way Sebastian Deterding (2016) envisions how digital games can be used for persuasion. From his perspective, procedural rhetoric is still the backbone of the persuasive experience, while other persuasive dimensions, such as narrative or visual persuasion, can be used to frame how the message conveyed through procedural rhetoric is interpreted and perceived by players. In the next section, however, we will try to argue how

persuasion through digital games can also work without procedural rhetoric being the backbone of persuasion, and how other persuasive dimensions can also take on the main role when trying to persuade players.

Changing attitudes

In persuasive games whose purpose is to change players' attitudes, the overlap between the persuasive goal and the game goal does not work in the same way as it does for games that aim to shape or reinforce an existing attitude. Overcoming informed players' resistance to persuasion is challenging. In this case, we are talking about players who have prior knowledge about the topic the game covers and who have an attitude that is contrary to the one the game is trying to promote. In this case, designing a simulation game in which the player needs to understand the message that the game is conveying in order to win is, in some circumstances, pointless because informed players may make the 'right' choices in the game and pretend to agree with its point in order to win without actually changing their beliefs or actions in the physical world. In this case, a game in which the game goal and the persuasive goal differ completely would better fit the purposes of the game.

We will start with an example of a game that tries to change the attitude of players but still has a game design in which the game goal and the persuasive goal overlap. The game I want to discuss here is *Against All Odds* (UNHCR, 2006), which was developed for the UNHCR with the aim of promoting empathy and positive attitudes toward refugees by putting players in their shoes. Although it is true that this game is available online and could have been played by a broad audience, ranging from players who already empathize with refugees to those who do not, its main purpose is still to promote positive attitudes and empathy among players who are not particularly sympathetic toward refugees.

We want to use *Against All Odds* as an example here because previous quantitative studies on the effectiveness of this game have concluded that it is unsuccessful in promoting long-lasting attitude changes when compared to traditional forms of media (Van 't Riet, Meeuwes, Van der Voorden, & Jansz, 2018; Wertley chapter 12 of this volume). In addition, a qualitative study (Domalewska, 2018) conducted to understand how the game was perceived and interpreted by its players has concluded that, although players understand the message that the UNHCR is trying to convey, they do not seem to personally empathize or feel real emotions toward refugees while playing the game. A majority of participants in this qualitative study were also critical of the way

in which the game presents refugees' journeys, and most of them also claimed that the game was unhelpful in terms of making them reflect seriously on the refugees' experiences, especially in relation to what they have to deal with and the losses and dangers they face when moving to another country.

If we analyze the persuasive strategy of this game, we can see that its game goal and persuasive goal overlap. In order to win the game, players need to adopt the role of a refugee in a simulation experience in which they will flee a country of conflict to a new country. To succeed in this journey, players will need to make a series of decisions, such as leaving their country, avoiding being seen by the police and the military, and giving answers in an interrogation.

When explaining why they did not empathize with the refugees in this game, the participants referred to the fact that they already had an opinion about this issue before playing the game, suggesting that it did not succeed in changing their opinions. Furthermore, the players also referred to the fact that the game was leading them to the choices they were supposed to make in the game, with many stating that they were actually not making these decisions voluntarily but rather because they needed to make them to continue playing.

When the purpose of a game is to change the attitude of a player, a different game design approach is one in which the game goal and the persuasive goal are completely different. A good example of this is the game *SnowWorld* (University of Washington Harborview Burn Centre in Seattle, 2011). The *persuasive goal* of this game is to change the attitude of patients with severe burns toward their rehabilitation and wound care, which can be very painful and stressful. The game was designed based on the scientific claim that context and distractions can influence the way individuals experience pain. *SnowWorld* is a virtual reality game in which the player is immersed in a snowy forest where the *game goal* is to fight a snowman. The snowman throws snowballs at the player, who needs to throw them back to hit his/her assailant. The player also faces penguins that have to be destroyed. The player can control the game with the movement of his/her head, and so the rest of the body is free for rehabilitation and wound care.

The game has been designed in such a way that players are focused on the experience and the feelings triggered by it, which distracts them from the reality of their treatment. In this case, the persuasive strategies are used to keep players busy and motivated enough in the game, which relieves some of the stress arising from the difficult process they are experiencing. Tactical and sensorial persuasion is, in this case, the most relevant persuasive dimension used. Sensorial persuasion consists of designing an experience that engages players through the senses. In this case, they are immersed in an environment of ice and snow to help them to get through their terrible

treatment. Tactical persuasion, meanwhile, consists of using the rules of a game to create an experience that is challenging enough for players but, at the same time, is adapted to their skills so that they do not become frustrated. The game is deliberately simple, because patients in pain cannot focus on complex mechanics, but it is intensive and demanding enough to keep them engaged. In this case, the game goal and persuasive goal do not overlap.

This is also an example of how a persuasive game can be designed without procedural rhetoric being the main persuasive dimension used in the game. We can see in this case how other persuasive dimensions are more relevant and are put in the service of a persuasive goal. In this case, a persuasive game designed to simulate the experience of going through a healing process would not have helped to achieve the persuasive goal of the designers.

Conclusion

In this chapter, we have argued how it is possible to look beyond procedural persuasion in digital games, that is, beyond the use of rule-based representations to influence the attitudes of players. Our main point is that procedural persuasion is one of the persuasive dimensions that can be used within digital games, although it is not the most relevant dimension, contrary to the position defended by Bogost in his book *Persuasive Games*. We have argued that persuasive goals and game goals could be aligned in different ways depending on whether the main purpose of the game is to shape, reinforce, or change the attitudes of players. We have illustrated this with different examples, with the aim being to defend the idea that if we pay attention to players' prior knowledge of the persuasive goal and their resistance to persuasion, we can design games that are efficient in terms of being interesting and attractive for players to play but still achieve their persuasive goals. This approach broadens the understanding of what persuasive games are and how they can be used for persuasion. It is also much more flexible than the position defended by Bogost; it challenges the shortcomings identified by Sicart; and it is used to argue against procedural rhetoric and, by extension, the persuasive potential of digital games.

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