Play to Save the World – Triggering Social Change through Games

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Abstract
While games have been usually associated with pure fun for the sake of it, social isolation, procrastination and the lack of a greater purpose anchored in reality, lately they have shed partly these attributes through demonstrating their potential association with hard work, harnessing the power of communities and as sources for generating social value. However, although playing games does not, yet, enable individuals to save the world, a growing number of them still offer the opportunity to change the life of a limited group of people. Changing the way people relate to each other and the actions they choose to take when addressing matters such as racism, poverty or environment issues has proven rather difficult. Ways of triggering the transition from awareness to actual involvement for a growing number of individuals involve CSR campaigns and actions of social enterprises that focus on a clear, specific goal, team work, competition, emphasizing each individual's agency, and presenting a selected figure or group of people to create a visual representation of the target. This paper analyzes the means through which social change is generated through the employment of these aspects as elements that stand at the core of games in general, and video games in particular. Further on, it aims at categorizing the unique features belonging to social change dedicated video games based on their determined ability to enable a higher degree of participation both in terms of intensity and in terms of scope, when addressing social causes, and determine the actual nature of their impact. Last, but not least, the paper ends with a discussion regarding the ways in which the experience created by games could be integrated by social actors to generate the impact desired.

Keywords: social change, CSR, game development, social impact games.

JEL classification: L31, O35.

1. Social impact games – a myth or reality?

The content discussing the role of games in changing the individual's behavior and quality of life has increased exponentially with each year. However, this has led to both the uncovering of new opportunities for creating social change and a fragmentation of the field due to the diverse backgrounds of its contributors. In a common effort to achieve coherence and further the understanding regarding the potential social impact of games, organizations such as Games for Change and educational institutions have established as their mission to constitute a hub for game developers and researchers alike in order to facilitate the building of a common ground. With this, the aim is to facilitate the transition from defining the social impact games action ground to being able to measure their effect upon the target audience.

1.1 Social value – common grounds

Despite its ubiquity, social value is a concept that is still difficult to delimitate. More often than not, it has been associated with broad category of actions, an economic counterpart, and quality of life; all through the different lenses of each field of discussion, industry or context.

In an effort to build a structured view, two main directions for defining social value have been identified:

•*Pragmatism/Financial:* social value is synonymous with Social Return on Investment (SROI) and derived as economic value. Moreover, it consists in the set of products and actions developed by organizations and provided with a social aim (Felício et al., 2013).

•*Idealistic/Holistic:* social value cannot be determined in an accurate and effective manner solely based on its potential association with economic value. It is defined as "the net benefit that accrues to all stakeholders, including those in future generations" (Hazy et al., 2010), a result of "a behavior that is not confined within the boundaries of an enterprise" and that is present not only in the non-profit sector, but also in the business and government sectors, overcoming the challenge of the solitary entrepreneur (Sinkovics et al., 2014; Korsgaard and Anderson, 2011). Thus, within this framework, social value contains a transcendental residual component that is expected to create further ripple effects in the shaping of the

individual behavior and the nature of the interactions.

Both perspectives converge at the point where the need for assessing the social consequences of the actions taken precedes the one of ensuring further comprehensiveness. To measure social value, the sources, the means (or channels) and actors of social value creation should be determined.

Regarding the sources of social value creation, there are several that can be identified:

- *Business model innovation:* multinational companies and NGOs co-existing with the aim to benefit from the multiplier effect that social value creation can determine upon the building of economic value (Dahan et al., 2010);

- *Corporate Social Responsibility initiatives and Corporate Social Entrepreneurship:* ensuring sustainable development of the community through initiatives and innovation for social value creation (Sinkovics et al., 2014);

- Creating an environment that promotes and supports simultaneously a bottom-up and a top-down approach through the stakeholders' engagement as multipliers of social value and the integrating of the concept at a strategic management level (Pies et al., 2010).

1.2 Games as sources of social value creation

After reviewing the aforementioned sources of social value creation, questions arise regarding the particularities that these broad categories may have in the context of different industries. In particular, the game development industry was (and still remains) one the areas submerged in controversy due to its perceived role in influencing human behavior. While some discussions focus on ethics and moral perspectives, others move further, discussing the potential that this emerging industry may have in driving social change.

Before moving further, a deeper understanding of the concept of "game" is needed. Most of the times taken for granted due to its widespread use, what we refer to as a game is more often than not debatable. Ranging from negative connotations such as "gaming the system" (cheating) or "playing games with someone" (tricking someone) to a fun medium and a primal method of learning across species, games have long held a controversial reputation. Hainey, et al. (2013) includes several definitions that partially overlap over elements which could be considered to stand at the core of the concept. A synthesis of the characterizations is: games are rule-based systems that represent a subset of reality and may have a fixed or variable outcome, which can be quantifiable and, in most cases, influenced by the player's actions. Games represent a voluntary act of the player to step into the reality created and abide by the rules that govern it. Key aspects that make games engaging lie in the control that the player has over the outcomes, it being an intrinsically fun experience, establishing a clear set of goals, and employing a feedback system that offers information about the progress towards the followed objectives. While games may differ greatly from one another, there can be identified four core elements that lie at the center of any game: aesthetics, mechanics, story and technology (Schell, 2008). These refer to the game's look and feel, its procedures and rules, its events and the sequence in which they occur, and the material, technological means through which the game takes place.

The game development industry has been under recent scrutiny by NGOs and social enterprises due to its rapid expansion to $76 billion worldwide, 9% higher than the previous year. Moreover, a greater boost is expected for 2016, when the worldwide value is estimated to surpass $86 billion, at a 13% annual growth rate versus 2015 (BigFish Games, 2014). Contributing to this evolution are the new technologies developed by console and electronics manufacturers, including the development of games for mobile platforms, the launching of a new console generations (known as "next gen consoles", e.g. PlayStation4, XBOX ONE) and the reborn of the Virtual Reality (VR) headsets. Thus, in 2014 the total amount spent in the US on video games reached $15.4 billion, dropping to 69% of the total expenditure at the industry level (3% less than in 2013). By difference, at the European level, consumers spent aggregately almost $5 billion more versus the previous year, as video-games sales revenues climbed up to approximately $20 billion in 2014. In Romania, the value of the top 100 video-game revenues was estimated to over $122 million (BigFish Games, 2014). Only in the US, in 2014, there were over 34 million gamers that spent on average 22 hours

per week playing games (BGR, 2014).

Given the high amount of time dedicated to games and the expansion of the industry, the attention of researchers and social entrepreneurs was directed towards the potential use of games in creating social value, while also ensuring the increased commitment of the participants through engagement. But are games a panacea for any social discussion and what exactly makes games engaging? Research has shown that points, badges and leaderboards alone are not enough to keep players interested and enhance performance. More specifically, "playing a game becomes meaningful and supports learning when the relationships between actions and outcomes in a game are both discernible and integrated into the larger context of the game." (Hayne, et al., 2010; p. 476).

These games have been referred to as "social impact games" or "games for social impact", their denomination originating from the term "serious games" (Czauderna, 2013). Their popularization under this denomination has come a as a response to the launching of the Academic Consortium on Games for Impact in 2012, the creation of the Center for Games & Impact at the Arizona State University, and the new interest of the industry towards the concept

One of the main social areas where games have already managed to hold an established position is education. At almost any level of education, professors, teachers, and students are advocating the benefits of utilizing games as a means to learn faster, better and stimulate performance. An example in this regard is Innov8, an IBM simulation game that helps students practice running their businesses virtually. Currently over 1000 colleges and universities worldwide have made use of the game for promoting entrepreneurship (Penenberg, 2015). Unfortunately, structuring and reproducing the existing research on game based learning has proven to be a task more difficult than expected, mainly due to the incompatibility of the questions, the inconsistent game taxonomy, and the different target groups (Hainey, et al., 2013; Stokes, et al., 2015).

Regarding the use of games for learning, Hainey, et al. (2013) mention as one of the main benefits the development of communication skills for students as a result of playing games (especially multiplayer ones) that promote cooperation and teamwork in order to succeed. Games also contain powerful extrinsic motivators such as points based systems, badges, leaderboards, special items, etc. If used moderately and alongside intrinsic ones, these elements could prove to be powerful tools for motivation, within the educational context. However, these are not self-sufficient and should not be expected to aid, by themselves only, in achieving better results and greater engagement. Regardless of the type chosen for their main goals, games and serious games should be fun. Without this component, the extrinsic motivation simulators only eliminate what is left of the interest for that topic (Bellotti, et al., 2014).

Even though for social impact games, fun may not seem a crucial element, it is actually playing a vital role. Research has shown that a state of happiness can favor the person's propensity to contribute to a social cause with financial or non-financial resources (make donations, volunteering, etc.) (Boenigk & Mayr, 2015). Moreover, engaging for a social purpose can trigger a positive response leading to further engagement and creating a social value creation loop (Ren & Ye, 2016; Aknin & Dunn, 2012).

2.   Research methodology

In this context, this paper sets to investigate whether playing games can trigger social change and identify the particular elements that game designers and game developers employ with a social outcome in mind.

Considering the information obtained from the literature review and online search, the following hypotheses have been formulated:

H1: The social impact created by a game is influenced positively by the coherence of the conveying of the selected theme through all four main game elements.

H2: Players with play time equal or greater than the average needed to complete the game have been closer to identifying the social theme of the game.

H3: Depending on their general attitude towards games, players can access different layers of the social impact.

H4: Associating an avatar to the playable characters helps the player identify with that character and immerse into the gaming experience.

Solely on the Games for Change online platform, one of the most comprehensive resources in terms of gaming applications developed with a social mission in mind, there are currently listed up to 140 social impact games (Games for Change, 2016).

In order to perform an in-depth analysis of the impact created by a social cause oriented game and test the hypotheses formulated above, one such application has been selected: "Beyond Eyes", a game created by the indie game development company Tiger&Squid. At its core, the game differentiates itself through the innovative mechanics that support its story: as the player guides the main character, a blind girl, with each step she takes the game world is unveiled through an interactive painting of the surroundings in pastel colors and watercolor style. Another differentiating factor involves the concurrent existence of the following features: being funded through crowdsourcing and ensuring accessibility through the development of versions for all major gaming platforms.

Beyond Eyes is, thus, a case of a game that acted as a creator of social value by becoming itself a representation of the social cause it embodies (raising awareness regarding blindness) and trying to gain the community's support for its development. In this way, future players have the opportunity to support the cause in two different ways: by backing up the game development financially and playing the game once it has been released. In both cases, the impact takes place both at individual and group/community level.

Around the individual support that each future player offers, a community is built - the group supporting the creation of a game that encompasses both artistic and social elements. The promotion of the game before release within industry events strengthens the cause and helps increase the community.

Regarding the second manner through which players contribute to the social cause, an inductive content analysis has been performed on the games' 119 valid reviews available on Beyond Eyes dedicated page on the Steam online platform. Invalid reviews were considered to be the ones not directly referring to the game's content, or the overall playing experience, but to other non-related subjects or containing a too broad reference.

The reason for collecting only the reviews available for PC users is the reliability and completeness of the data, with special emphasis that all feedback content could be posted only by actual players of the game. The use of inductive content analysis was decided due to the little scientific research on the concept of social impact games, by difference from serious games. Other reasons included the flexibility of the method allowing for in-depth exploration regardless of the data structure, by defining customized units of analysis, codes and categories of codes (Elo & Kyngas, 2008).

A preliminary data analysis has revealed two layers of inquiry for social impact. The first layer comprises of the content of the reviews, while the second is built as meta-content: an evaluation of other users of the review content placed by the players, limited to only two alternatives: useful and not useful.

At the first level of inquiry, the data has been centralized and coded resulting in the following categories, subcategories and values:

- Player ID: username used by the player to log into Steam and access the game. The data provided by this field was used as a unique identifier for each review.
- Date: the date when the review was posted on the platform.
- Recommendation: whether the player would recommend or not the game to other players. This field has been populated with information directly filled in by Steam user with one of the two values: recommended or not recommended.
- Hours in game: time spent by the player in game.
- Products in basket: number of other games or game related application owned by the user on Steam.
- Role of aesthetics as part of the blindness experience:

- o yes (players considered the design of the visuals and sounds as integral parts of the experience);
- o no (players did not mention or did not consider the design of visuals and sounds to be linked directly to the game's core concept.
- Role of mechanics as part of the gaming experience ("yes", "no").
- Overall experience: review content is analyzed to determine the overall quality of the gaming experience. The information filled in this field has as main role the cross-checking of the "Recommendation" data provided by the user. The results of the evaluation of the overall experience can only be expressed through "positive" or "negative".
  - o Positive
  - o Negative
- Social impact on player: a qualitative analysis of the content is performed with the purpose of identifying any indicators of social impact over the user resulted from the playing experience. The primary social impact is considered to be one emerging explicitly from the player's review, while the secondary is considered to be a subdued one, suggested through implicit remarks.
  - o Primary
  - o Secondary
- Number of direct mentions of terms related to the condition per review: this dimension measures the number of times the term "blind", "blindness" and other related terms appear in the content of a review. The purpose of the indicator is to determine whether increased awareness on the character's condition through the association of characteristic terms and phrases might influence the way the player perceived the overall experience and the existence or intensity of the social impact.

The unit selected for this analysis was the review. This has allowed for an understanding of each player's view, without losing the context of the phrases or keywords used.

Thus, both quantitative and qualitative insights were gained through a mixed use of the content analysis method.

3. Results

Analyzing the end user's experience, the research aims at determining whether the efforts of game designers, and game developers alike, could change individual and/or group behavior. The content analysis performed on 119 valid reviews for the Steam PC version of the game "Beyond Eyes" revealed that at least a short-term change occurred enlarging the player's perception on blindness, while also bringing other social aspects such as the importance of friendship or community integration into the focus.

In its first month of launching, the game received 35% of its reviews. Out of those, 66% were posted just in the first week. This could be the result of the crowdsourcing financing source that the company has opted for this project. Early adopters of the game that have had access to the demo and have supported its development were eager to play the full version and also felt more entitled or accountable to offer feedback regarding their experience. The general response to the game was favorable, with 82% of the players recommending the game. 36% of the detractors surpassed the average game playing time needed for completing the game, while 41% of the promoters have spent more than 3 hours in the game.
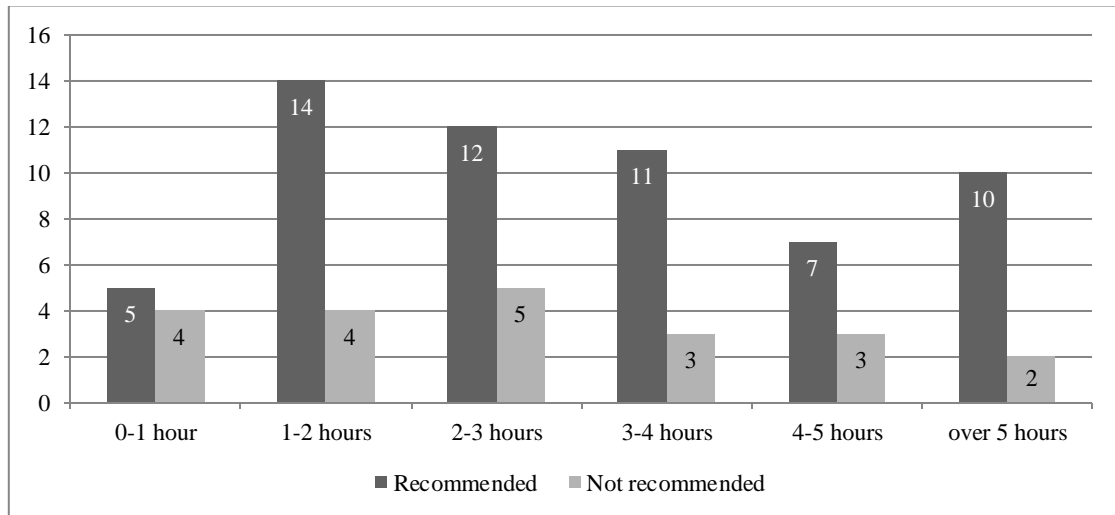
Figure 1 - Distribution of promoters versus detractors based on playing time

However, a qualitative analysis of the content of the reviews has revealed that even though certain users recommended the game, their description of the overall experience seemed to lean towards a rather neutral appreciation than a positive one. The element that has been most frequently mentioned by the players as a negative factor consisted in the walking speed restriction imposed on the main character. Over 50% of the users have mentioned "moving too slow" or "controls" as a source of frustration, even though one out of three of those were aware of the limitation's role as part of recreating the "blindness" experience. So was the experience too genuinely recreated in the detriment of fun? The qualitative analysis reveals that neutrality towards the experience has led to at least the same number of players susceptible to abandoning the game without completing it as having a negative experience. The greatest number of neutral or negative reviews is represented by the ones that have been written by players spending less than 2 hours in the game.

At the other end of the spectrum, players who have found the experience very positive have invested more than 5 hours and were eager to relive the playing experience by starting the game again, after the first play. Spending the designated average time to complete the game (between 2 and 3 hours) seems to trigger the greatest number of positive experiences.

Thus spending too much time in the game or too little can significantly influence the player's perception regarding the experience.
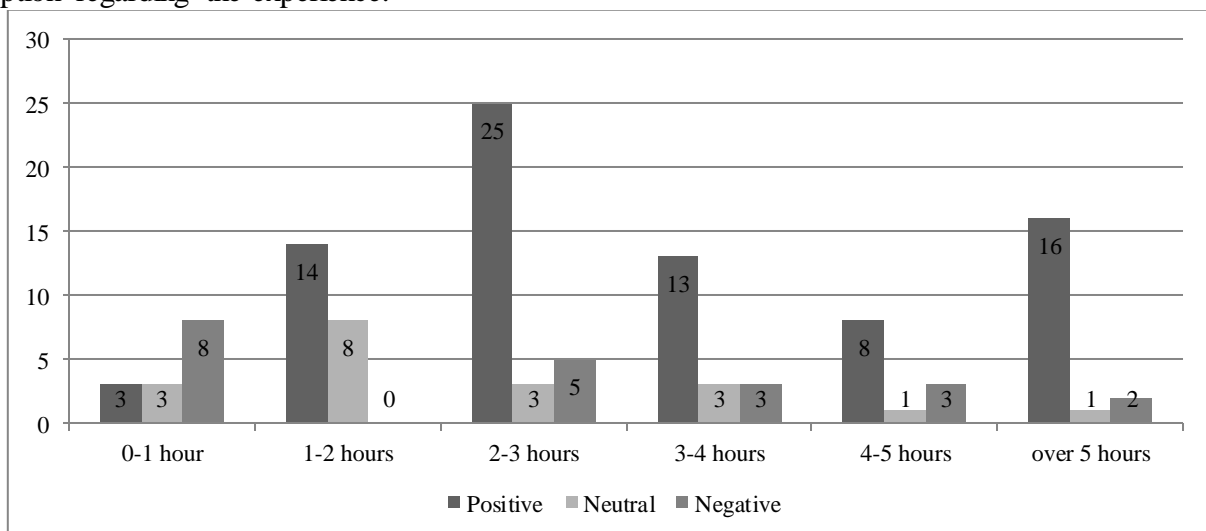
Figure 2 - Distribution of players based on overall experience and time played

To continue with, the influence of the time spent in game over the identification of the main social theme has been investigated. Results reveal that only 18 players out of 49 (37%) who played the game for

more than 3 hours identified the main social theme and related to it. Similarly, 26 players of the 70 (38%) that have spent less than 3 hours in the game mentioned the support of a social cause or aspect as main goal of the game. Hence, H2 cannot be confirmed or rejected.

The universe created through the use of intertwined mechanics, aesthetics and storytelling has been the most important factor in determining the quality of the player's experience. One of the aspects that have received an overwhelming positive reaction consisted in the visual and sound effects of the game. Over 47% of the players have recognized the role of aesthetics in conveying feelings of vulnerability, hope and empowerment in relation to the blindness condition. Moreover, in almost 70% of the reviews, the references made to the game's graphic design, sounds and music have ranged from positive to highly positive. Thus, regardless of the time spent in the game, players have been exposed to the social message through the use of the three of the four main game elements in a coherent and amplifying manner.

Going further, playing as a young girl who has lost her sight has had a significant influence on the player, as 61% identified as primary impact experiencing life from a different perspective, that of a blind person, and living intense emotional moments evoked by the friendship between the main character and her pet. For 9 of the 119 players, the emotional flow was able to trigger powerful emotional responses such as crying. However, the main contributor to the game's impact was the innovative mechanics employed, allowing the virtual world to be uncovered only as the player progresses through movement or correct identification of sounds. The simulation still includes experiences which are especially created to prompt a sense of vulnerability: the player is made to believe that the images painted through the sounds identified are the correct ones, only to eventually reveal that the character was mistaken in her guess. These results suggest that both H1 and H4 could be confirmed with further research on social impact games, using as a starting ground the directions mentioned, and results from research on gaming, in general.

By analyzing playing behavior, there have been identified four main categories of players: perfectionist, casual, hard-core, and experimental. Perfectionists are players interested in completing all in game objectives, both required and optional, overachieving the scores (if there are any available) and gain all trophies or badges available. Such players may complete the game or even replay it, even if they do not consider the playing experience to be a very positive one. Casual players spend less than one hour per day playing and prefer games that require short completion times or transactional, episode based stories and actions. Hardcore gamers differentiate themselves through their high level of gaming experience and their ability to go beyond the end user status, taking sometimes the role of an expert or critique. Experimental gamers are looking for new, original playing experiences that are created through the use of innovative mechanics or concepts. In the case of "Beyond Eyes", only 8 out of the 119 players have identified as main feature of the game its artistic style and experimental mechanics, while 28 players have appreciated it for its casual, adventure feel.

Amongst the players included in the research, the category of hardcore gamers has been isolated with the purpose to determine any potential particularities in terms of reactions towards the game experience. Hardcore gamers have been considered Steam users that at the time of the review had more than 1000 products in their basket, resulting in a total number of 11 such players. The review data extracted showed that actually more hard-core gamers had recommended the game, while overall positive and negative assessments (categorized through the qualitative content analysis) seem to be evenly distributed amongst player categories.

These results suggest that while casual and experimental gamers may be mostly attracted to the social impact games genre, these categories prove to be more difficult to reach from a social cause perspective. Thus, taking into consideration H3, game developers and designers need to consider the means through which they can trigger a social effect on these categories as well, while not compromising their gaming experience.

Finally, at the meta-content analysis level, 60% of the reviews posted have been assessed by a total of 1386 other players. Amongst these, the most highly recommended reviews, on average, were those of the players holding less than 400 products in their Steam account. Only 51% of the reviews that presented as primary purpose of the game raising awareness towards a social cause have been rated. On average, these

reviews have been considered in 87% of the cases useful by other players. However, only one of these reviews has been rated by more than 100 players and, thus, could be considered to reveal a significant result. Overall, amid all 119 reviews analyzed, only 3 have received more than 100 votes individually, with each of the players behind the reviews presenting a comprehensive view on the story, mechanics and details of the overall experience with the game. These results reveal the fact that through online reviews the social impact of the game can be multiplied to reach exponentially more individuals. For "Beyond Eyes", even though there was only one review that discussed the cause supported by the game, its gross reach was to up to 372 other individuals, out of which 357 considered the content useful for taking their decision whether to play the game.

Discussion

Games can prove to be powerful tools in triggering social change, starting with influencing the individual behavior, values and way of relating to different groups. A key factor in succeeding to create social impact is the development of an endogenous game universe into which the players enter. Moreover, the time spent by the player in the game universe can impact their overall experience, but not independently of other factors such as the story, the rules and procedures employed, the interaction design and the aesthetics. A crucial component becomes the correlation of the game mechanics with the experience through which it aims to raise awareness for the social cause. However, game designers need to consider both the positive and the negative aspects that accompany the creation of an immersive world.

As the focus is placed on bringing an authentic experience to the player, the fun to play aspects should not be omitted either. Just like in the case of "Beyond Eyes", walk a fine line between innovative gameplay and easily accessible controls. Actual players of the game were able to identify, accept and embrace the social issue as part of both the virtual universe and reality. Going further, the players that have reviewed the game were able to convey the stylization of the social aspects from the game environment into reality, the two worlds being occasionally immersed into one another.

In their efforts to reach individuals and entice their participation in determining social change, social organizations and CSR departments engage in developing costly projects. However, very few of these projects offer the social return on investment that their funders expect. Games offer social actors the means through which to create an engaging experience that is both fun and with a potential for a real change in the life of the player and even in that of a community. Social impact games can help target the growing gaming community and bring social issues into each person's life, drawing attention to it almost every day, slowly introducing change through the feelings they create. Other benefits that the design of social impact games offers include: openness to crowdfunding structures, raising popularity of game development start-ups incubators, and amplified effect due to increased review content, exposure through multinational social organizations such as Games for Change or game development multinationals.

In the education sector, games have already started to play an important part, proving their superiority to traditional methods. Games such as the "Parable of the Polygons" or "Quandary" take players out of their comfort zone by offering difficult choices based on which decisions are made and the fate of the game world depends (Learning Games Network, 2012; Hart & Case, 2016). The gameplay triggers insights into the easiness with which anyone could act into a discriminatory manner or disrespect the rights of certain groups and individuals.

This research could represent a basis on which further studies could be designed with the purpose to determine causal relationships between particular game elements and the overall final experience of the end user. Furthermore, different particularities of social impact games could be determined through the research on diverse cause oriented applications.

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