ChallengED. Challenging the Status Quo of American Education through Gamification.

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Contents

Abstract

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Introduction

Rarely do games involving education focus on the teacher's perspective. Various social, environmental, structural, and political dynamics create misrepresentation in today's schools. This misrepresentation can drive the general populace into believing irrelevant challenges exist instead of focusing on pertinent and dire problems that are plaguing education. Why do educational games focus on student outcomes instead of learning? This study will provide a descriptive and visual analysis through which players can interact with the realities plaguing education today and negative teacher stereotypes.

Structured playtesting will allow this video game to become meaningful and identify potential issues in the game. The goals must be defined, and each test will be a collection of data that is most relevant to this game's end goals and messaging in that iteration. The point of this iterative process is to analyze the data collected to look for patterns and trends that can help prioritize the most significant issues to address.

What aspects of the American education system must be simulated in a game environment to effectively portray the challenges teachers face and enhance player understanding of these challenges? How does one foster empathy for teachers when they have never taught within the classroom themself?

Using established playtesting modes for the iterative game design process, each version control should hopefully become stronger than the last. The weaknesses and the strengths of this interactive story process will begin to break through and develop the final game. Different questions will be asked of the players in each playtesting module as the game develops to compile accurate data. (Macklin & Sharp, 2016)

Ultimately this game could alleviate and confront the real-world anxiety that plagues the job of teachers if done effectively. (Overanalyser, 2020) Using the psychological cognitive empathy method of allowing the player to take on the role of an educator would allow the player to see just how extraneous teaching in the American education system is to the average teacher. Although serious games are still considered experimental and, in their infancy, they have still been shown through multiple studies as a great way of supporting intrinsic experiential learning with the implementation of carefully crafted game mechanics through immersion. (Arnab, et al., 2015)

Literature Review and Related Work

Playtesting

Making games is an iterative design process in which developers must be open to spontaneity within their original game design plans. Play, enjoyment, and a player's entertainment perceptions should factor into each edition of the game itself when making any decisions. (Salen & Zimmerman, 2010) Developers should focus on core mechanics and fundamental rules being readily available in a game early in the creation process because this is not a visual prototype but an interactive one. There is no way to anticipate how people will play a game, so the only way to figure this out is to have people play the game itself.

Each version control of a prototype should allow the game creators to see cracks that can be exploited and messaging that is not always clear to the player. (Macklin & Sharp, 2016) When the developers complete internal playtesting repeatedly to test out loops and playability, they ultimately become very good at their own game just from shear practice. This can make judging the difficulty of one's game very challenging if near impossible. Others must be recruited to participate in the playtesting process outside of the creators themselves to make sure

the game is viable, and playtesting can help identify design flaws that may negatively impact the player's experience. For example, a level may be too difficult or too easy, or the user interface may be confusing. Playtesting can help developers identify these issues and adjust to improve the game's overall balance and usability.

Playtesting is important for several reasons. It helps developers identify and address bugs and glitches that may impact the game's performance or cause it to crash. These issues can be difficult to detect during development and may only become apparent when the game is played by many people with different hardware configurations. This can help developers identify areas where the game may need additional content or features. This feedback can help guide future updates and expansions to the game.

Much of game design is theoretical in approach. (Salen & Zimmerman, 2010) The use of game design parameters must be used so that game designers can move from brainstorming game ideas into implementation of the concepts themselves into the game prototype. Developers are encouraged to play other people's games because the game can create an experience for the developer that can lead to innovative ideas in their own work. The developer's goal should be creating a game that is repayable and exciting to the player every time. Overall, playtesting is critical to the success of a video game. By testing a game with real players, developers can identify and address issues that may negatively impact the player's experience, resulting in a more polished, engaging, and enjoyable game.

Learning and Game Mechanics

Serious games are an intrinsic and experimental learning process. Game mechanics refer to the rules, interactions, and systems that govern the gameplay, while learning mechanics refer to the process or acquiring the mastering of these mechanics (Arnab, et al., 2015) How the

game creator implements these game mechanics will affect the learning mechanics that will relay the success of what the player actually learns about the game designer's messaging. As shown in Figure 1, learning and game mechanics are very intertwined.

If done effectively a game should introduce new mechanics gradually, allowing players to learn and understand them before introducing more complex mechanics using a type of a more traditional pseudo scaffolding teaching process. This game's tutorial will take place during the player's virtual student teaching to allow an NPC (non-player character) to direct the player on how to effectively navigate the game's mechanics. This will hopefully seem like a natural progression for the player to understand more complex learning mechanisms to be able to focus on the narrative and messaging.

Overall, learning and game mechanics are crucial components of a video game, impacting the player's experience, motivation, and engagement with the game. By carefully designing the mechanics that are both engaging and easy to learn, game developers can create an experience that is both fun and rewarding for players.

Empathy Driven Game Design

Games are an act of gameplay, which is contingent on the players themselves. We cannot limit ourselves to only seeing actions and not investigating the reason, context, justification, and limitations. We must find individual meaning for the game. (Consalvo, 2009) There is a paradoxical artificiality of games and the way that they relate to real world contexts. The "magic circle" in game theory is what transgresses the game's reality and the real-world reality boarder[1]. This design can allow developers to communicate social issues rather than

[1] The boundary of the magic circle is blurred between the game itself and the player's life.

exclusive entertainment content. An effective magic circle that encroaches into the real world can have real world impacts (see Figure 2 for more information).

Empathy in video games is important because it can create a more immersive and emotionally engaging experience for players. Empathy is the ability to understand and share the feelings of another person. This can be facilitated by affective storytelling, character development, and gameplay mechanics in video games. When players are able to empathize with the character in a game, they may feel more invested in the story and in turn feel more connected to the game world. This can lead to a more emotional and memorable experience. Players may also be more likely to identify with the themes and messages of the game, leading to a deeper level of engagement and understanding.

There are faults of empathic game play as well if the material is not presented in a mindful manner. If implemented poorly the player could strengthen preconceived stereotypes or provoke defensive avoidance techniques. Game developers must deploy empathetic tactics effectively by using design principles established by the gaming industry that have been effective in fostering empathy. Developers must explicitly ask players to emphasize with the character's avatar so that the player is aware of what is going on. This is because even if the material is substantive, players will only be bystanders instead of participating in the process for change for themselves. (Belman & Flanagan)

There are also practical benefits to using an empathy driven model for a serious game. For example, games that tackle difficult or sensitive topics, such as social injustice, can also help players develop empathy and understanding for these issues. This can help broaden the appeal of gaming as a medium. By creating games that appeal to a wider range of players, developers can help to break down stereotypes and promote a more inclusive gaming culture.

Player Outcomes

Facilitating a perceived similarity between groups of unfamiliar groups or minorities can be a mechanism through which empathy reduces prejudice. (Belman & Flanagan) The act of garnering selflessness (see figure 3) can have a positive outward effect on the player. But within the context of a game, we need to know what motivates players to make certain choices and not just make emboldened moves for entertainment purposes. (Overanalyser, 2020) Figure 4 depicts what motivates a player to make certain decisions. These motivations can be different from person to person (which is why we choose to play a plethora of different types of games), so game designers need to be cognizant of who our audience is to better suit the needs of their audience. This game needs to provide player incentives for the desired behaviors that encourage players to shift their biases of teachers.

By interweaving playful content with more serious content the player will become more receptive to a shift in ideals. Designing a game with positive mechanical repetition is key in "reversing well-ingrained implicit attitudes or associations." (Westecott, 2016) Repetition can build new mental connections and weaken existing negative stereotypes about teachers.

Methodology

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Heading 2.

For APA formatting requirements, it's easy to just type your own footnote references and notes. To format a footnote reference, select the number and then, on the Home tab, in the Styles gallery, click Footnote Reference.

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Tables

Table 1

Table Title

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Figures

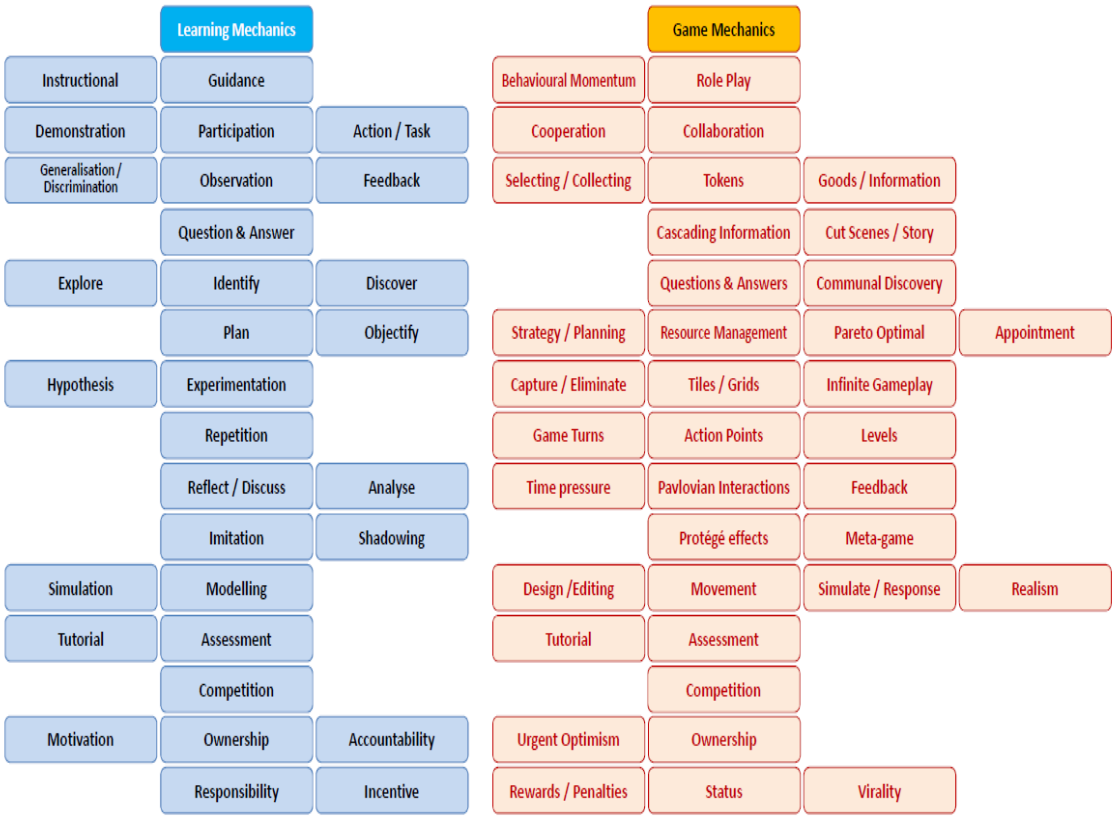

Figure 1. Learning and game mechanics that are used as the basis to construct the learning and game mechanics map for a game. (Arnab, et al., 2015)

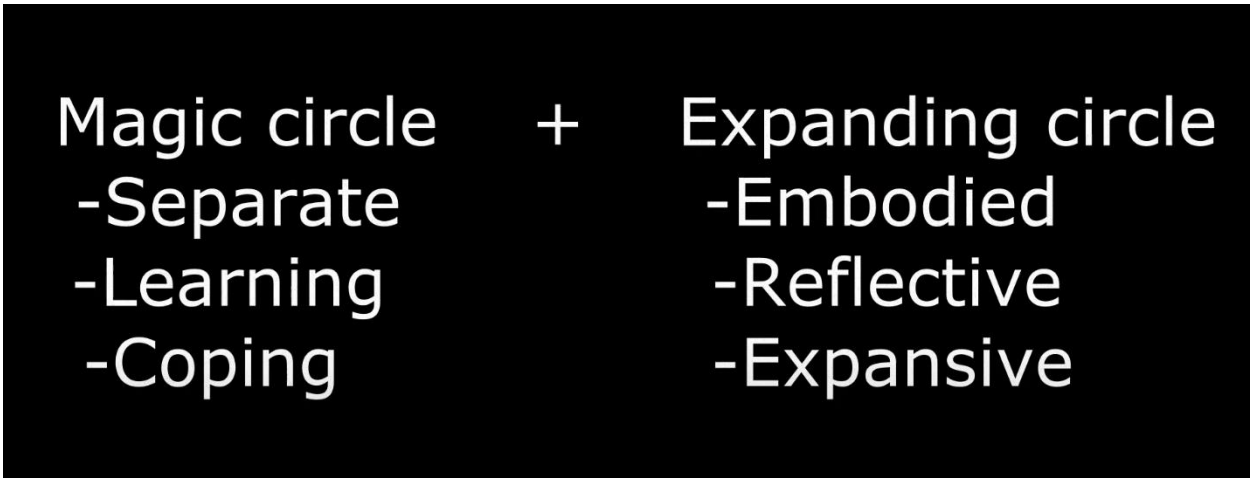

Figure 2. The magic circle should encroach upon the player's viewpoint of a game if it encapsulates empathetic game play effectively. (Overanalyser, 2020)

Figure 3. If the player embodies the role of their avatar effectively, they can begin to exhibit traits of selflessness. (Overanalyser, 2020)

Figure 4. Gamer motivation model. (Overanalyser, 2020)