

Chapter 9

Board Games, Zombies, and Minecraft: Gamification in Higher Education

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ABSTRACT

Games have been played throughout human history and in all cultures, exposing almost everyone to gameplay in some form. Higher education is exploring ways faculty can leverage games to enhance course development and the student learning experience. The primary pedagogical use of games is gamification, in which gaming is used to transform learning activities. This chapter will 1) provide an overview of gamification theory and practice in higher education, 2) share ideas for faculty to consider when using gamification as a teaching tool, and 3) explore how the game Minecraft was used through educational and practical applications to teach a local government course.

INTRODUCTION

People have played games throughout history. In ancient times, humans gathered bones to create a version of dominoes (Kelley, 1999). Kings and queens from the medieval time period played a form of chess (Averbakh, 2012). Modern games occur on different platforms from traditional boards to digital worlds, are easily accessible, and have a broad range of genres. Digital platforms, where players fight zombies and other enemies, create virtual economies, and interact socially, are rapidly increasing in popularity. This chapter examines the linkages between gamification and higher education through the lenses of engagement, motivation, faculty and student perspectives, and educational and practical applications.

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BACKGROUND

In any gaming environment, McGonigal (2011) suggests four basic game elements are present. The first element is a goal players are working to achieve. The second is establishing game rules and ways a player can go about achieving goals. The third is a feedback system showing players the progress they are making towards achieving goals. Fourth, players voluntarily participate and agree on the goals, rules, and feedback system within the game. These four principles form the foundation for gamification theory which applies to digital and non-digital games.

In a literature review of game-based learning and e-learning, Doney (2019) found seven common themes that occur in practice.

- Challenge: “the level of difficulty and ability to stretch” players (p. 3). The challenge of a game is intrigue and what captures the player’s interest. This can vary from player to player;
- Competition: the competition is between players or game elements. Players participate in games for simple rewards such as bragging rights among friends or more complex rewards and prizes. Games can even have groups of players vying to win or players competing against game elements like traps, zombies, and monsters;
- Control: the amount of control players have to manipulate the game environment. Some games are narrow and limit player actions. Other games give players more choices and freedom to customize the game;
- Feedback: the feedback enables players to reflect on actions taken within a game and to learn from their mistakes. Feedback comes to players through game prompts such as a point system. This helps players measure game progress and identify areas of improvement;
- Context: the environment of a game and realistic situations using visuals and media. The context of a game could vary depending on player activities and goals. Digital and non-digital games have different contexts based on how they are designed;
- Rules: the rules help players know how to play the game and what achievements they are seeking. Rules set the boundaries for acceptable behavior and consistency. They establish desired outcomes and steps for players to win the game; and
- Reflection: the power of reflection is a positive influence to encourage learning. Players review their game performance—what went well, what did not go well, and how to improve in the next game. The goal of reflection is continuous improvement.

Student Engagement

When Doney’s (2019) principles are imported into an educational context, games can be viewed as a tool in classroom engagement. Since today’s students are considered digital natives, their learning styles naturally incorporate openness to using digital games for motivation and engagement in learning (Kiryakova et al., 2013). These students have experienced a variety of gamification learning tools in K-12 and their free time. In fact, 97% of K-12 youth play some type of digital or video games (McGonigal, 2011). Many students filling college classrooms today have spent their whole lives playing video games and can see where games align with coursework (Lorenzo, 2016). They have built vast online worlds and enjoy high engagement through game mechanics such as boss fights or competitive multiplayer

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